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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

ASHLEY GJOVIK, *an individual*,

Plaintiff,

v.

APPLE INC, *a corporation*,

Defendant.

Case No. 3:23-cv-04597-EMC

Filed: September 7 2023

District Judge: Honorable Edward M. Chen

MOTION FOR JUDICIAL NOTICE

Filed: December 25 2023

ADDITIONAL EXHIBITS

Hearing

Dept: Courtroom 5, 17th Floor (Virtual)

Date: February 8, 2024 1:30 p.m.

Motion for Judicial Notice Cover Page: Exhibit 06

US SEC / DOJ

Declaration: *I verified the authenticity of each of these documents. A true and correction version of each document is attached in each exhibit. I declare under penalty of perjury this is true and correction. /s/ Ashley M. Gjovik (January 2 2024).*

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Apple Board Policies (Public)



Corporate Governance Guidelines

The Board of Directors (the "Board") of Apple Inc. (the "Corporation") has adopted these governance guidelines. The guidelines, in conjunction with the Corporation's articles of incorporation, bylaws, and the charters of the committees of the Board, form the framework of governance of the Corporation. The governance structure of the Corporation is designed to be a working structure for principled actions, effective decision-making and appropriate monitoring of both compliance and performance.

I. The Role of the Board of Directors

The Board oversees the Chief Executive Officer (the "CEO") and other senior management in the competent and ethical operation of the Corporation on a day-to-day basis and assures that the long-term interests of the shareholders are being served. To satisfy its duties, directors are expected to take a proactive, focused approach to their position to ensure that the Corporation is committed to business success through the maintenance of high standards of responsibility and ethics.

II. Director Qualifications

The Nominating and Corporate Governance Committee is responsible for reviewing the qualifications of potential director candidates and recommending to the Board those candidates to be elected to the Board. The Nominating and Corporate Governance Committee will consider the individual's background, skills and abilities, and whether such characteristics qualify the individual to fulfill the needs of the Board at that time. The Board should monitor the mix of skills and experience of its directors in order to assure that the Board has the necessary tools to perform its oversight function effectively. Candidates should be selected for, among other things, their independence, character, ability to exercise sound judgment, diversity, age, demonstrated leadership, and relevant skills and experience, including financial literacy, and other experience in the context of the needs of the Board.

Shareholders also may nominate directors for election at the Corporation's annual meeting of shareholders by following the provisions set forth in the Corporation's bylaws. The Nominating and Corporate Governance Committee evaluates candidates recommended by shareholders using the same criteria as for other candidates recommended by its members, other members of the Board, or other persons.

III. Director Independence

It is the policy of the Corporation that the Board must consist of at least a majority of independent directors who meet the independence requirements of the Nasdaq Stock Market ("Nasdaq"). The Board will consider all relevant facts and circumstances in making a determination of independence for each director and may consider, as appropriate, imposing independence requirements more stringent than those required by Nasdaq.

IV. Director Service on Other Public Company Boards

Serving on the Corporation's Board requires significant time and attention. Directors are expected to spend the time needed and meet as often as necessary to discharge their responsibilities properly. A director who also serves as the CEO of the Corporation should not serve on more than two boards of other public companies in addition to the Corporation's Board. Directors other than the CEO of the Corporation should not serve on more than four boards of other public companies in addition to the Corporation's Board.

V. Ethics and Conflicts of Interest

The Board expects its directors, as well as officers and employees, to act ethically. Directors are expected to adhere to the Corporation's Business Conduct Policy and the Guidelines Regarding Director Conflicts of Interest.

VI. Director Orientation and Continuing Education

The Corporation will provide new directors with materials, briefings and additional educational opportunities to permit them to become familiar with the Corporation and to enable them to perform their duties. Directors also are encouraged to visit the Corporation's facilities and meet with Corporation employees throughout their tenure on the Board. In addition, directors are encouraged to attend accredited director education programs at the Corporation's expense.

VII. Term of Office

Directors serve for a one-year term and until their successors are elected. There are no limits on the number of terms that a director may serve. The Board believes the Corporation benefits from the contributions of directors who have developed, over time, increasing insight into the Corporation. The Nominating and Corporate Governance Committee reviews periodically the appropriateness of each director's continued service.

VIII. Retirement Policy

A director may not stand for re-election after age 75, but need not resign until the end of his or her term.

IX. Director Resignations, Retirements and Refusals to Stand for Re-Election

A director who intends to resign or retire or refuses to stand for re-election to the Board must submit written notice to the General Counsel of the Corporation. For resignations and retirements, the director must state the effective date of the resignation or retirement. For resignations, the director also must state that the director has no disagreement with the Corporation's operations, policies or practices or, if the director has such a disagreement, the director must describe the disagreement. For refusals to stand for re-election, the director must state when the election in question will occur.

X. Directors Who Change Their Present Job Responsibilities

Each director who retires or substantially changes his or her principal occupation or business association from the position he or she held when initially elected to the Board shall tender his or her resignation to the Board at the time of such change by sending written notice to the General Counsel of the Corporation. The Board does not believe that a non-employee director in this circumstance necessarily should be required to leave the Board. Instead, the Board believes that the Nominating and Corporate Governance Committee should review each situation and make a recommendation to the Board as to the continued appropriateness of Board membership under the new circumstances.

XI. Director Responsibilities

The fundamental role of the directors is to exercise their business judgment to act in what they reasonably believe to be the best interests of the Corporation and its shareholders. In fulfilling that responsibility, directors reasonably may rely on the honesty and integrity of the Corporation's senior management and expert legal, accounting, financial and other advisors.

Annual Meeting Attendance: All directors are expected to attend the Corporation's annual meeting of shareholders.

Scheduling of Board Meetings and Attendance: The Board will meet at least four times per year. Directors are expected to prepare for, attend and participate in all Board and applicable committee meetings, and to spend the time needed to meet as often as necessary to discharge their obligations properly.

Agenda: At the beginning of each year the Board will set, to the extent foreseeable and practicable, a schedule of agenda items to be discussed during the year. Any director may suggest items to be included on the agenda or raise subjects at a Board meeting that are not on the agenda for that meeting. An agenda for each Board meeting, along with information and data that is important to the Board's understanding of the business to be conducted at the Board meeting, should be distributed to directors in advance of the meeting so that Board meeting time may be focused on questions that the Board has about the materials. Certain matters may be discussed at the meeting without advance distribution of written materials, as appropriate.

XII. Chair of the Board and Chief Executive Officer

The Board regularly evaluates whether or not the roles of Chair of the Board and CEO should be separate and, if they are to be separate, whether the Chair of the Board should be selected from the non-employee directors or be an employee of the Corporation. The Board believes these issues should be considered as part of the Board's broader oversight and succession planning process.

XIII. Co-Lead Directors and Executive Sessions

The Board expects to hold executive sessions without the presence of management, including the CEO, or other non-independent directors, at least four times per year. In general, the Board reserves time following each regularly scheduled meeting to allow the independent directors to meet in executive session. The executive sessions shall be led by the Chair of the Board if one

has been elected. If a Chair of the Board has not been elected, or if the elected Chair of the Board is a non-independent director, the Board will appoint a Lead Director or Co-Lead Directors to conduct executive sessions and for such other purposes as the Board finds appropriate. If more than one Lead Director is appointed, the Board may prescribe different responsibilities to each Co-Lead Director.

XIV. Communication with Stakeholders

The Board believes that management speaks for the Corporation. Individual directors occasionally may meet or otherwise communicate with various constituencies that are involved with the Corporation, but it is expected that directors would do this with the knowledge of management and, in most instances, absent unusual circumstances or as contemplated by the committee charters, at the request of management.

XV. Board Committees

Standing Committees: The Board currently has a Nominating and Corporate Governance Committee, an Audit and Finance Committee and a Compensation Committee. From time to time, the Board may form new committees as it deems appropriate.

Independence and Qualifications of Standing Committee Members: All of the members of the standing committees will meet the then-effective criteria for independence established by Nasdaq and, in the case of the Audit and Finance Committee, the independence requirements for audit committee members set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended. The members of these committees also will meet the other membership criteria specified in the respective charters for these committees.

Standing Committee Member Assignments and Rotation: The Nominating and Corporate Governance Committee makes recommendations to the Board concerning the size, structure and composition of the Board committees. The Board will designate the chair, committee members and, where applicable, alternate standing committee members, by the vote of at least a majority of the directors. From time to time, there will be occasions on which the Board may want to rotate standing committee members, but the Board does not believe that it should establish a formal policy of rotation. At least one member of the Compensation Committee will not serve simultaneously on the Audit and Finance Committee.

Standing Committee Charters: Each standing committee will have its own charter. The charter will set forth the purpose, authority and responsibilities of the standing committee in addition to the qualifications for standing committee membership.

Meeting and Agenda: The chair of each standing committee will determine, in consultation with the appropriate standing committee members and members of management, and in accordance with the standing committee's charter, the frequency and length of standing committee meetings and the standing committee's agenda. Each standing committee will establish, to the extent foreseeable and practical, a schedule of agenda items to be discussed during the year. The schedule for each standing committee will be furnished to the full Board.

XVI. Director Access to Officers and Employees

Directors are encouraged to talk directly with any officer or employee of the Corporation. Senior officers are invited to attend Board meetings from time to time to provide additional insight into the items being discussed.

XVII. Director Compensation

The Compensation Committee will review the form and amount of director compensation annually and recommend any changes to the Board. Non-employee directors are expected to receive a substantial portion of their annual retainer in the form of equity. Employee directors are not paid additional compensation for their services as directors.

XVIII. Board Evaluation

The Board should undertake an evaluation of the Board, its Committees and each member at least annually to determine whether it and its members and committees are functioning effectively. The Nominating and Corporate Governance Committee is responsible for coordinating and overseeing the annual Board evaluation process in accordance with its charter.

XIX. Management Review and Succession Planning

The Compensation Committee should conduct, and review with the Board, an annual evaluation of the performance of all executive officers, including the CEO. The Compensation Committee is expected to use this review in the course of its deliberations when considering the compensation of the CEO and executive officers. The Board also reviews the CEO performance evaluation to ensure that the CEO is providing effective leadership of the Corporation. As part of the annual evaluation, the Board and the CEO should conduct an annual review of management development and succession planning for executive officers, including the CEO.



Audit and Finance Committee Charter

There shall be a committee of the Board of Directors (the "Board") of Apple Inc. (the "Corporation") to be known as the Audit and Finance Committee ("Committee") with purpose, composition, authority, duties and responsibilities, as follows:

A. Purpose of the Committee

The purpose of the Committee is to:

1. Assist the Board in oversight and monitoring of:
 - the Corporation's financial statements and other financial information provided by the Corporation to its shareholders and others;
 - compliance with legal, regulatory and public disclosure requirements;
 - the independent auditors, including their qualifications and independence;
 - the Corporation's systems of internal controls, including the Internal Audit function;
 - treasury and finance matters;
 - enterprise risk management, privacy and data security; and
 - the auditing, accounting, and financial reporting process generally.
2. Prepare the committee report required by the rules of the Securities and Exchange Commission (the "SEC") to be included in the Corporation's annual proxy statement. The Committee does not itself prepare financial statements or perform audits, and its members are not auditors or certifiers of the Corporation's financial statements. It is not the duty of the Committee to conduct audits or to determine that the Corporation's financial statements and disclosures are complete and accurate and are in accordance with U.S. Generally Accepted Accounting Principles ("GAAP") and applicable rules and regulations. These duties are the responsibilities of management and the independent auditors.

B. Composition of the Committee

The members of the Committee shall be appointed by the Board. The Committee will be composed of not less than three Board members. Each member shall be "independent" in accordance with applicable law, including the rules of The Nasdaq Stock Market LLC ("Nasdaq") and the more rigorous SEC independence requirements for audit committee members set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Each member shall be able to read and understand fundamental financial statements, in accordance with Nasdaq audit committee requirements, and at least one member will have past employment experience in finance or accounting, requisite professional certification in accounting, or other comparable experience or background, including a current or past position as a principal financial officer or other senior officer with financial oversight responsibilities and will otherwise qualify as an "audit committee financial expert" as defined by applicable SEC rules. The Chair of the Committee shall be designated by the Board.

Members of the Committee shall serve until their successors are duly elected and qualified or their earlier resignation or removal. The Board may remove or replace any member of the Committee.

C. Committee Meetings

The Committee shall meet as often as it deems appropriate, but at least quarterly, to perform its duties and responsibilities under this charter. The Committee shall meet at least quarterly with management, the head of Internal Audit, and the independent auditors in separate executive sessions to discuss any matters that the Committee or any of these groups believes should be discussed privately. The Committee shall meet with the independent auditors and management quarterly to review the Corporation's financial information. The Chair of the Board, any member of the Committee, or the Secretary of the Corporation may call meetings of the Committee. The Chair of the Committee, in consultation with the Committee members and members of management, will determine the frequency and length of Committee meetings and develop the Committee's agenda. At the beginning of the year, the Committee will establish a schedule of agenda subjects to be discussed during the year, to the extent foreseeable and practical. The Committee shall maintain written minutes of its meetings, which will be filed with the meeting minutes of the Board.

D. Authority and Resources

The Committee may request any officer or employee of the Corporation or the Corporation's outside counsel or independent auditor to attend a Committee meeting or to meet with any members of, or consultants to, the Committee. The Committee shall have the power to conduct or authorize investigations into any matters within the Committee's scope of responsibilities. The Committee has the right at any time to obtain advice, reports or opinions from internal and external counsel and expert advisors and has the authority to hire and terminate independent legal, financial and other advisors as it may deem necessary or appropriate, at the Corporation's expense, without consulting with, or obtaining approval from, any officer of the Corporation in advance. The Corporation shall provide appropriate funding for payment of ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties. In addition to the duties and responsibilities expressly delegated to the Committee in this charter, the Committee may exercise any other powers and carry out any other responsibilities consistent with this charter, the purposes of the Committee, the Corporation's bylaws and Nasdaq rules, or as otherwise delegated by the Board.

E. Duties and Responsibilities

The Committee shall:

Independent Auditor

1. Appoint, compensate, retain, and oversee the work of the independent auditors (including resolving disagreements between management and the independent auditors regarding financial reporting) for the purpose of preparing or issuing an audit report or related work.
2. Pre-approve all audit and permissible non-audit services to be provided to the Corporation by the independent auditors, as set forth in Section 10A of the Exchange

Act and the rules and regulations promulgated thereunder by the SEC. The Committee shall have the sole authority to approve the hiring and firing of the independent auditors and all fees and terms of audit and non-audit engagements with the independent auditors, in each case as may be permissible and compatible with the auditors' independence. The Committee shall also review and approve disclosures with respect to non-audit services.

3. Review and provide guidance with respect to the external audit and the Corporation's relationship with its independent auditors by:
 - reviewing the independent auditors' proposed audit scope, approach and independence;
 - obtaining on a periodic basis a statement from the independent auditors regarding relationships and services with the Corporation which may impact independence and presenting this statement to the Board, and to the extent there are relationships, monitoring and investigating them;
 - ensuring that the independent auditors submit to the Committee on an annual basis a written statement (consistent with the applicable requirements of the Public Company Accounting Oversight Board) delineating all relationships and services between the independent auditors and the Corporation, actively engaging in a dialogue with the independent auditors with respect to any disclosed relationships or services that may impact the objectivity and independence of the independent auditors, and taking appropriate action to oversee the auditors' independence; and
 - reviewing reports submitted to the Committee by the independent auditors in accordance with applicable SEC requirements.
4. Obtain and review an annual report from the independent auditors describing (i) the independent auditors' internal quality control procedures and (ii) any material issues raised by the recent internal quality control review, peer review, or Public Company Accounting Oversight Board review, of the independent auditors, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the independent auditors, and steps taken to deal with any such issues.
5. Review the experience and qualifications of the senior members of the independent auditor team.
6. Review and concur with the Corporation's hiring of employees of the independent auditor who were engaged on the Corporation's account.
7. Review the qualifications, independence, performance, and fees of the independent auditors on an annual basis, including a review and evaluation of the lead partner of the independent auditor.
8. Periodically discuss with the independent auditors any matters appropriate or required to be discussed under applicable accounting and auditing professional standards or applicable regulations, including auditing standards adopted by the Public Company Accounting Oversight Board. These discussions shall include (i) the independent auditors' judgments about the quality, appropriateness, and acceptability of the Corporation's accounting principles and financial disclosure practices, as applied in its

financial reporting, and (ii) the completeness and accuracy of the Corporation's financial statements.

Financial Reporting

9. Review with management and the independent auditor:
 - the Corporation's annual audited financial statements, and related footnotes, and quarterly unaudited financial statements, including the disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations," prior to filing the Corporation's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, respectively, with the SEC;
 - the independent auditors' audit of the annual financial statements and their report thereon;
 - the accompanying management letter and any reports with respect to interim periods;
 - any material changes to the Corporation's accounting principles and practices used in preparing financial statements to be filed with the SEC;
 - any significant changes required in the independent auditors' audit plan;
 - other matters related to the conduct of the audit that are to be communicated to the Committee under the auditing standards of the Public Company Accounting Oversight Board.
10. Review with management, the independent auditors, and the Corporation's counsel, as appropriate, any legal and regulatory matters that may have a material impact on the financial statements, related compliance policies, and programs and reports received from regulators.
11. Review and discuss earnings press releases, including the use of non-GAAP financial measures, prior to public disclosure.
12. Provide a report for inclusion in the Corporation's proxy statement in accordance with the rules and regulations of the SEC.
13. Oversee compliance with the requirements of the SEC for disclosure of auditors' services and audit committee member qualifications and activities.
14. Discuss with the independent auditors the financial statements and audit findings, including any significant adjustments, management judgments and accounting estimates, significant new accounting policies and any other matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board and the SEC, as in effect at the time in the case of annual statements, and Auditing Standard 4105, as in effect at the time in the case of quarterly statements.

Internal Control Over Financial Reporting and Disclosure Controls and Procedures

15. Review the adequacy of the Corporation's internal control over financial reporting and the disclosure controls and procedures designed to ensure compliance with applicable laws and regulations.
16. Consider and review with the independent auditor and the head of Internal Audit the adequacy of the Corporation's internal controls and any related significant findings and

recommendations of the independent auditor and internal auditors together with management's responses thereto.

17. Periodically review with management any significant deficiencies or material weaknesses in the design or operation of internal control over financial reporting, any fraud involving any employees who have a significant role in the Corporation's internal control over financial reporting, and any significant changes in internal control over financial reporting or in other factors that could significantly affect internal control over financial reporting, including management's responses thereto.
18. Establish procedures for receiving, retaining and treating complaints received by the Corporation regarding accounting, internal accounting controls, or auditing matters and procedures for the confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters.

Internal Audit

19. Review and concur with the appointment, replacement, reassignment, or dismissal of the head of Internal Audit.
20. Consider, in consultation with the head of Internal Audit and the independent auditor, the audit scope and plan of the internal auditors and the independent auditors.
21. Review with the head of Internal Audit and the independent auditor the coordination of audit effort to assure completeness of coverage, reduction of redundant efforts, and the effective use of audit resources.
22. Consider and review with management, the head of Internal Audit, and the independent auditor:
 - Significant findings during the year and management's responses thereto;
 - Any difficulties encountered in the course of the internal audit, including any restrictions on the scope of work or access to required information, and management's response;
 - Any changes required in the planned scope of the internal audit plan; and
 - The Internal Audit department's responsibilities, budget and staffing.

Management Discussions

23. Review with management and the independent auditors any correspondence with regulators or governmental agencies and any employee complaints regarding the Corporation's financial statements or accounting policies.
24. Periodically review separately with each of management, the independent auditors, and the head of Internal Audit (i) any disagreements between management and the auditors in connections with any audits, (ii) any difficulties encountered during the course of audits, including restrictions in scope or access to required information, and (iii) management's response.
25. Consider and approve, if appropriate, significant changes to the Corporation's accounting principles and financial disclosure practices as recommended by management and the independent auditors. Review with management and the independent auditors, at appropriate intervals, the extent to which any changes or

improvements in accounting or financial practices, as approved by the Committee, have been implemented.

26. Inquire about the application of the Corporation's accounting policies and its consistency from period to period, and the compatibility of these accounting policies with GAAP, and, when applicable, the provisions for future occurrences that may have a material impact on the financial statements of the Corporation.
27. Review and discuss with management the program that management has established to monitor compliance with the Corporation's Business Conduct Policy.
28. Review and discuss with management all disclosures made by the Corporation concerning any material changes in the financial condition or operations of the Corporation.
29. Review annually the independent auditors' letter of recommendations to management and management's responses.
30. Review any management decision to seek a second opinion from independent auditors other than the Corporation's regular independent auditors with respect to any significant accounting issues.
31. Review with management and the independent auditors the sufficiency and quality of the Internal Audit Department staff and other financial and accounting personnel of the Corporation.

Treasury, Finance and Statutory Reorganization

32. Review periodically the capital structure of the Corporation, and, when necessary, recommend to the Board transactions or alterations to the Corporation's capital structure.
33. Review and approve the Corporation's treasury resolutions, expenditure authorization, statutory mergers, dissolutions, liquidations, conversions, reorganizations and the like.
34. Review and approve offerings, repurchases, redemptions or defeasances of the Corporation's debt securities or other forms of indebtedness and take all actions in furtherance of any such transaction, including the appointment of a management pricing committee to determine and approve the specific timing, terms and conditions of such transactions.
35. Periodically review matters pertaining to the Corporation's investment practices for cash management, foreign exchange, investments, and derivatives.
36. Review and approve special transactions or expenditures as specifically delegated by the Board, or such other special transactions or expenditures not specifically delegated by the Board if determined by the Committee that approval by the full Board is not necessary or convenient, such as transactions that require relatively rapid decisions.
37. Review and discuss with management all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), leases and other relationships of the Corporation with unconsolidated entities or other persons, that may have a material current or future effect on the Corporation's financial condition, changes in financial condition, results of operations, liquidity, capital resources, capital reserves, or significant components of revenues or expenses.

38. Review and discuss with management any equity investments, acquisitions, and divestitures that may have a material current or future effect on the Corporation's financial condition, changes in financial condition, results of operations, liquidity, capital resources, capital reserves, or significant components of revenues or expenses.
39. Review and discuss with management the Corporation's effective tax rate, adequacy of tax reserves and significant tax developments.

Risk Oversight, Privacy and Data Security

40. Review and discuss with management:
 - management's program to identify, assess, manage, and monitor significant business risks of the Corporation, including financial, operational, privacy, data security, business continuity, tax, legal and regulatory compliance, and reputational risks; and
 - management's risk management decisions, practices, and activities.
41. Review and discuss with management the Corporation's privacy and data security risk exposures, including:
 - the potential impact of those exposures on the Corporation's business, financial results, operations and reputation;
 - the steps management has taken to monitor and mitigate such exposures;
 - the Corporation's information governance policies and programs; and
 - major legislative and regulatory developments that could materially impact the Corporation's privacy and data security risk exposure.
42. Regularly report to the Board the substance of such reviews and discussions and, as necessary, recommend to the Board such actions as the Committee deems appropriate.

Other

43. Provide an open avenue of communication between the internal auditors, the independent auditor, and the Board.
44. Review the Committee's charter, structure, processes, and membership requirements and submit any recommended changes to the Board at least once a year.
45. Report to the Board concerning the Committee's activities with such recommendations as the Committee deems appropriate at least once a year.
46. Review and approve related-party transactions consistent with the Related Party Transactions Policy and report to the full Board on any approved transactions.
47. Delegate, in its discretion, any of its responsibilities to the extent allowed under applicable law.



Guidelines Regarding Director Conflicts of Interest

Pursuant to the Corporate Governance Guidelines of Apple Inc. (the "Corporation"), the Board of Directors of the Corporation expects each director to act ethically at all times and to adhere to the Corporation's Business Conduct Policy.

Directors should take all reasonable steps to avoid conflicts of interest with the Corporation. However, from time to time, a director of the Corporation may have an actual or potential conflict of interest with the Corporation. Pursuant to the Corporation's Business Conduct Policy, a conflict of interest is any activity that is inconsistent with or opposed to the Corporation's best interests or that gives the appearance of impropriety or divided loyalty. A conflict of interest may include, without limitation, a contract or other transaction, or pending or threatened litigation, between the Corporation and the director or between the Corporation and any corporation, firm or association with which the director has a material financial interest, or the actual or potential use of confidential information of the Corporation by the director or any corporation, firm or association with which the director has a material financial interest in a manner that could be adverse to the best interests of the Corporation.

The Corporation's General Counsel will survey each director annually to determine if the director has any actual or potential conflicts of interest with the Corporation. In addition, any director who becomes aware of an actual or potential conflict of interest with the Corporation at any time during the year shall notify the Corporation's General Counsel promptly in writing of the material facts of the actual or potential conflict of interest. The Corporation's General Counsel shall notify the Chair of the Nominating and Corporate Governance Committee (the "Committee") of such facts.

The Chair of the Committee, with such assistance from the Corporation's General Counsel, and, at the Corporation's expense, any outside advisers as the Chair deems necessary or appropriate, shall investigate any actual or potential conflict of interest and shall review the findings with the other members of the Committee in a meeting of the Committee. In the meeting, the Committee then shall make a determination whether an actual or potential conflict of interest with the Corporation exists. If the Committee determines that no actual or potential conflict of interest exists, the Committee shall not take any further action except to record its determination in minutes of the meeting as provided below or as otherwise required by the Corporation's Related Party Transactions Policy. If the Committee determines that an actual or potential conflict of interest exists, the Committee shall determine an appropriate remedy, which may include, without limitation, not providing the director any information regarding the subject matter of the actual or potential conflict of interest, asking the director to recuse himself or herself from any review or vote in a meeting of the Board of Directors or any committee on the subject matter of the actual or potential conflict of interest, or asking the director to resign from the Board of Directors. The Committee shall take minutes of the meeting and include such minutes in its minute book kept by the Corporation's General Counsel. The Chair of the Committee shall report on the matter to the Board of Directors at its next regularly scheduled meeting, or sooner if appropriate.

The director with the actual or potential conflict of interest shall not participate in the Committee's consideration of the matter. In the event the Chair of the Committee has the actual or potential conflict of interest, the remaining members of the Committee shall designate a member of the Committee to lead the Committee's consideration of the matter and report to the Board of Directors.

In the event the actual or potential conflict of interest involves a contract or other transaction between the Corporation and a director or between the Corporation and any corporation, firm or association in which the director has a material financial interest, the contract or transaction also may be approved by the shareholders or full Board of Directors in accordance with Section 310 of the California Corporations Code. Additionally, in the event that an actual or potential conflict of interest may constitute an "Interested Transaction" as such term is defined in the Corporation's Related Party Transactions Policy, the General Counsel shall notify the Chair of the Audit and Finance Committee of such actual or potential conflict of interest.

The Committee also shall consider whether disclosure of the actual or potential conflict of interest is necessary or appropriate under applicable law and listing standards.



Related Party Transactions Policy

A. Introduction

The Board of Directors (the "Board") of Apple Inc. (the "Corporation") recognizes that certain transactions present a heightened risk of conflicts of interest or the perception thereof. The Board has determined that the Audit and Finance Committee (the "Committee") of the Board is best suited to review and approve all Interested Transactions with Related Parties, as those terms are defined in this Related Party Transactions Policy (this "Policy"). Therefore, the Committee has adopted this Policy to ensure that all Interested Transactions with Related Parties shall be subject to approval or ratification in accordance with the procedures set forth below.

B. Procedures

Prior to the entry of any Interested Transaction, such Interested Transaction shall be reported to the Corporation's General Counsel. The General Counsel will undertake an evaluation of the Interested Transaction. If that evaluation indicates that the Interested Transaction would require the Committee's approval, the General Counsel will report the Interested Transaction, together with a summary of material facts, to the Committee. The Committee shall review the material facts of all Interested Transactions that require the Committee's approval and either approve or disapprove of the entry into the Interested Transaction, subject to the exceptions described below. If advance Committee approval of an Interested Transaction is not feasible, then the Interested Transaction shall be considered and, if the Committee determines it to be appropriate, ratified at the Committee's next regularly scheduled meeting. In determining whether to approve or ratify an Interested Transaction, the Committee will take into account, as it deems appropriate for the circumstances, the factors listed under Section D, "Standards for Review" below.

Each director and executive officer of the Corporation completes a questionnaire at least annually, which is designed to elicit information about any existing or potential Interested Transactions. In the event the Corporation's Chief Executive Officer, Chief Financial Officer or General Counsel becomes aware of an Interested Transaction that was not previously approved or ratified under this Policy, such person shall promptly notify the Chair of the Committee, and the Committee or, if it is not practicable for the Corporation to wait for the entire Committee to consider the matter, the Chair of the Committee, shall consider whether the Interested Transaction should be ratified or rescinded or other action should be taken. The Chair of the Committee shall report to the Committee at the next Committee meeting any actions taken under this Policy pursuant to the authority delegated in this paragraph.

The Committee has reviewed the Interested Transactions described below in "Standing Pre-Approval for Certain Interested Transactions" and determined that each of the Interested Transactions described therein shall be deemed to be pre-approved or ratified (as applicable) by the Committee under the terms of this Policy, unless specifically determined otherwise by the Committee. A summary of each new Interested Transaction deemed pre-approved pursuant to paragraph (3) or (4) under Section E, "Standing Pre-Approval for Certain Interested Transactions," below and each new Interested Transaction pre-approved by the Chair of the Committee in accordance with the previous paragraph shall be provided to the Committee for its review at the next Committee meeting.

No director shall participate in any discussion or approval of an Interested Transaction for which he or she is a Related Party, except that the director shall provide all material information concerning the Interested Transaction to the Committee.

If an Interested Transaction will be ongoing, the Committee may establish guidelines for the Corporation's management to follow in its ongoing dealings with the Related Party. Thereafter, the Committee, on at least an annual basis, shall review and assess ongoing relationships with the Related Party to ensure that they are in compliance with the Committee's guidelines and that the Interested Transaction remains appropriate.

Additionally, in the event that an Interested Transaction involving a member of the Board may constitute an actual or potential director conflict of interest, the General Counsel shall notify the Chair of the Nominating and Corporate Governance Committee of such Interested Transaction.

C. Definitions

An "Interested Transaction" is any transaction, arrangement or relationship or series of similar transactions, arrangements or relationships (including the incurrence or issuance of any indebtedness or the guarantee of indebtedness) in which (1) the aggregate amount involved will or may be reasonably expected to exceed \$120,000 in any fiscal year, (2) the Corporation or any of its subsidiaries is a participant, and (3) any Related Party has or will have a direct or indirect interest (other than solely as a result of being a director or a less than ten percent beneficial owner of another entity).

A "Related Party" is any person who is or was (since the beginning of the last fiscal year for which the Corporation has filed an Annual Report on Form 10-K and proxy statement, even if such person does not presently serve in that role) (1) an executive officer, director or nominee for election as a director of the Corporation, (2) a greater than five percent beneficial owner of any class of the Corporation's Common Stock or other equity securities, or (3) an immediate family member of any of the foregoing individuals or entities identified in (1) or (2) of this paragraph. Immediate family member includes a person's spouse, parents, stepparents, children, stepchildren, siblings, mothers- and fathers-in-law, sons- and daughters-in-law, and brothers- and sisters-in-law and anyone residing in such person's home (other than a tenant or employee).

D. Standards for Review

An Interested Transaction reviewed under this Policy will be considered approved or ratified if it is authorized by the Committee or the Chair of the Committee, as applicable, in accordance with the standards set forth in this Policy after full disclosure of the Related Party's interests in the transaction. As appropriate for the circumstances, the Committee or the Chair of the Committee, as applicable, shall review and consider:

- the nature and extent of the Related Party's interest in the Interested Transaction;
- the approximate dollar value of the amount involved in the Interested Transaction;
- the approximate dollar value of the amount of the Related Party's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of business of the Corporation;

- the material terms of the transaction, including whether the transaction with the Related Party is proposed to be, or was, entered into on terms no less favorable to the Corporation than terms that could have been reached with an unrelated third party;
- the business purpose of, and the potential benefits to the Corporation of, the Interested Transaction;
- whether the Interested Transaction would impair the independence of an outside director;
- required public disclosure, if any; and
- any other information regarding the Interested Transaction or the Related Party in the context of the proposed transaction that would be material to the Committee's decision, in its business judgment, in light of the circumstances of the particular transaction.

The Committee will review all relevant material information available to it about the Interested Transaction. The Committee, or the Chair of the Committee, as applicable, may approve or ratify the Interested Transaction only if the Committee, or the Chair of the Committee, as applicable, determines in good faith that, under all of the circumstances, the transaction is just and reasonable as to the Corporation. The Committee, in its sole discretion, may impose such conditions as it deems appropriate on the Corporation or the Related Party in connection with approval of the Interested Transaction.

The review, approval or ratification of a transaction, arrangement or relationship pursuant to this Policy does not necessarily imply that such transaction, arrangement or relationship is required to be disclosed under Item 404(a) of Regulation S-K promulgated by the Securities and Exchange Commission (the "SEC").

E. Standing Pre-Approval for Certain Interested Transactions

The Committee has reviewed the types of Interested Transactions described below and determined that each of the following Interested Transactions shall be deemed to be pre-approved by the Committee, even if the aggregate amount involved will exceed \$120,000, unless otherwise specifically determined by the Committee.

1. Employment of executive officers. Any employment by the Corporation of an executive officer of the Corporation or any of its subsidiaries if the related compensation is approved (or recommended to the Board of Directors for approval) by the Corporation's People and Compensation Committee;
2. Director compensation. Any compensation paid to a director if the compensation is consistent with the Corporation's director compensation policies and is required to be reported in the Corporation's proxy statement under Item 402;
3. Certain transactions with other companies. Any transaction with another company at which a Related Person's only relationship is as an employee (other than an executive officer or director) or beneficial owner of less than ten percent of that company's equity, if the aggregate amount involved does not exceed the greater of \$1,000,000, or two percent of that company's total annual revenues;

4. Certain charitable contributions. Any charitable contribution, grant or endowment by the Corporation to a charitable organization, foundation or university at which a Related Person's only relationship is as an employee (other than an executive officer or director), if the aggregate amount involved does not exceed the greater of \$1,000,000, or two percent of the charitable organization's total annual receipts; and
5. Transactions where all stockholders receive proportional benefits. Any transaction where the Related Person's interest arises solely from the ownership of the Corporation's Common Stock and all holders of the Corporation's Common Stock received the same benefit on a pro rata basis (e.g., dividends).

F. Disclosure

All Interested Transactions that are required to be disclosed in the Corporation's filings with the SEC, as required by the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, and related rules and regulations, shall be so disclosed in accordance with such laws, rules and regulations.

The material features of this Policy shall be disclosed in the Corporation's Annual Report on Form 10-K or in the Corporation's proxy statement, as required by applicable laws, rules and regulations.



Policy on Reporting Questionable Accounting or Auditing Matters

Any employee of Apple may notify the Audit and Finance Committee of Apple's Board of Directors of any concerns regarding accounting or auditing matters at Apple by calling the Business Conduct Helpline, which is available to all employees worldwide and is active 24/7. The Business Conduct Helpline is available on AppleWeb.

Individuals may also notify the Audit and Finance Committee of Apple's Board of Directors of any concerns regarding accounting or auditing matters at Apple by mailing the concern to the following address:

Office of the General Counsel
Apple Inc.
One Apple Park Way, MS 169-5GC
Cupertino, CA 95014

You may report your concerns anonymously and confidentially. However, the Audit and Finance Committee encourages you to supply contact information with your submission to facilitate follow-up, clarification, and assistance with any investigation, if necessary. The Audit and Finance Committee has established procedures for the receipt, retention and treatment of all complaints received regarding accounting and auditing matters.

When you, in good faith, notify the Audit and Finance Committee of Apple's Board of Directors of any concerns regarding accounting or auditing matters at Apple, you are protected from any form of retaliation. Retaliation will not be tolerated.



Apple Anti-Corruption Policy

Corruption can take many forms, but most often it occurs through bribery. At Apple, we have zero tolerance for any form of corruption in connection with our business dealings. This includes bribes, embezzlement, extortion, and theft. If you are unsure of the proper course of action, or whether something constitutes corruption, contact Business Conduct.

Bribery

A bribe is offering or giving anything of value to any person for the purpose of obtaining or retaining business, or securing an improper advantage.

You cannot offer or receive bribes from any individual, regardless of whether that individual is a public official or a private party.

Anything of value includes cash, cash equivalents such as gift cards, gifts, meals, travel and entertainment, and can also include a promise, or guarantee of something of value. Anything of value can also include job offers. Apple does not offer employment of any kind, including internships and contract positions, in order to obtain or retain business or gain a business advantage. Please refer to the Anti-Corruption Recruiting Policy for additional information.

Reasonable and customary business gifts, meals, and hospitality provided for a legitimate business purpose may be permissible under international and local anti-corruption laws, but must be provided in accordance with Apple policy. Please refer to Apple's Business Conduct Policy for additional information.

Kickbacks are a type of bribery, and occur when a person is offered money or something of value in exchange for providing something to a third party. The third party may be requesting information, a discount, or a favor. Like all other bribes, kickbacks may be in the form of cash or the equivalent, gifts, meals, and entertainment. Kickbacks are not permissible and are strictly prohibited by Apple.

Facilitating payments are a type of bribe generally used to facilitate or expedite the performance of routine, non-discretionary government action. These types of payments are typically demanded by low-level officials in exchange for providing a service that is ordinarily and commonly performed by the official. These payments are not permissible and are strictly prohibited by Apple. Exceptions may be made in circumstances that involve an imminent threat to health or safety and such situations must be immediately reported to Business Conduct.

A published, well-documented expediting fee paid directly to a government or state-owned agency is not typically considered a facilitating payment under anti-corruption laws. For example, paying a fee to expedite a passport application, deliver a package, or process government paperwork such as visas, is not considered a facilitating payment for purposes of corruption laws, if those fees are payable to a entity - not an individual - and are published openly. If you have a question as to whether a payment is permissible, contact Business Conduct.

Public Officials

A "public official" is any person who is paid with government funds or serves in a public function. This includes individuals who work for a local, state/provincial or national government, or a public international organization, as well as employees of public (government-owned or operated) schools, hospitals, and state-owned enterprises. Employees at such organizations are considered public officials regardless of title or position. In some instances, it may be difficult to determine if an individual is a public official, especially if you are interacting with them in a non-governmental capacity. If you are unsure, contact Business Conduct for guidance.

In many instances, there are specific guidelines regarding gifts, meals, travel, and entertainment provided to public officials. These guidelines generally also apply to immediate family members of a public official. Gifts and meals provided to U.S. public officials must comply with the Ethics Policy Events Involving Government or Public Employees or Officials. Meals provided to non-U.S. public employees and officials must comply with the posted country-by-country chart of Permissible Limits for Business Meals Provided to Non U.S. Public Officials.

If permitted under local law, Apple can pay reasonable travel expenses for public employees or officials that are directly related to the promotion, demonstration, or explanation of products and services. However, all such travel expenses must be pre-approved by Business Conduct or Legal. If you are hosting an event where public employees or officials are invited, you must follow the Ethics Policy for Events Involving Government or Public Employees or Officials.

Third Parties

Apple can be found responsible for bribes, kickbacks, and/or facilitating payments made by third parties in connection with Apple's business. Third parties also have an obligation to ensure that their third parties, such as sub-contractors or agents, understand and comply with this Policy and applicable anti-corruption laws. Third parties may not be used to circumvent the laws or this Policy. Willful ignorance is not a defense.

Before engaging a third party that will be interacting with the government or public officials on Apple's behalf, contact globalcompliance@apple.com to evaluate whether we need to conduct additional due diligence. Please refer to the Due Diligence Policy for additional information.

Be on the lookout for these red flags when dealing with third parties and subcontractors and alert Business Conduct if you become aware of any of the following:

- Rumors of, or a reputation for, bribery;
- Minimal detail on invoices or expense claims involving interactions with public officials or government agencies, including lump sum requests, requests for large commissions or payments, or payments made through a third party or another country;
- A close relationship with a public official or ministry, or insistence on using a specific consultant or one who provides little to no obvious added value.

Accurate Records and Internal Controls

Apple is legally required to make and keep accurate records that truthfully and accurately reflect all the transactions of the corporation and maintain an adequate system of internal accounting controls. This includes preserving supporting documentation and proper approvals.

Ensure that all relevant records — including invoices, expense reports, and any other business record — accurately reflect the transaction. Do not misstate facts, omit information or modify records or reports in any way. Provide as much detail as possible. When interacting with public officials or government agencies, ensure that you're providing a thorough description of the services being rendered, including detail of services provided and/or tasks performed, government interactions, and detailed cost breakdown. Simply providing a limited description like "construction and project management", "product certification" or "design fee" is not acceptable.

If you are confronted with a demand to pay a bribe or are offered a kickback, you must refuse. Explain that these types of payments are illegal and are against Apple policy, and report the incident to Business Conduct.

Reporting Potential or Actual Violations

You should consult with Business Conduct if there is a question as to the appropriateness of a particular business decision or course of action. Monitor third parties closely, especially if they interact with public officials on Apple's behalf or benefit. Any employee who learns of any misconduct or suspicious activities, including potential violations of this Policy and the law, must immediately report such misconduct either to Business Conduct or Legal.

Questions

All questions about information contained in this Policy should be directed to Business Conduct.

Retaliation Is Not Tolerated

Apple will not retaliate – and will not tolerate retaliation – against any individual for filing a good-faith complaint with management, HR, Legal, Internal Audit, Finance, or Business Conduct, or for participating in the investigation of any such complaint.

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Apple Whistleblower Policy



Apple Global Whistleblowing Policy

Apple conducts business ethically, honestly, and in compliance with applicable laws and regulations. This applies to every business decision in every area of the company worldwide. Apple is committed to ensuring that the company fosters a culture where our people and stakeholders are encouraged to report concerns without fear of retaliation.

This Global Whistleblowing Policy applies to all current and former employees, directors and officers, contractors and subcontractors of Apple and its subsidiaries, and sets out Apple's approach to protecting and supporting individuals who report potential misconduct.

The Audit and Finance Committee of Apple's Board of Directors is responsible for overseeing management's implementation of this policy and associated procedures. Apple's Business Conduct organization has overall operational responsibility for this policy. In addition, the Audit and Finance Committee of Apple's Board of Directors has established procedures to govern the retention and treatment of complaints regarding Apple's accounting or auditing matters.

This Policy does not constitute a contract of employment, and Apple reserves the right to update this policy from time to time.

Speak Up

If you have knowledge of, or a reasonable good-faith ground to suspect, wrongdoing related to Apple — whether it be a breach of internal policies, principles, or legal or regulatory obligations — we encourage you to speak up. You should feel comfortable about voicing your concerns so that Apple can investigate.

If you are an employee of Apple or its subsidiaries, you are expected to notify either your manager, People, Legal or Business Conduct if you become aware of any violation of the Business Conduct Policy, other Apple policies, or legal or regulatory requirements.

Reporting of certain types of actual or suspected wrongdoing that are in the public interest and affect others is often described as whistleblowing. Depending on applicable law, whistleblowing reports may include, but are not limited to, suspicions of wrongdoing regarding:

- Financial malpractice, misrepresentations, impropriety, or fraud, including accounting and auditing or disclosure concerns
- Failure to comply with a legal or regulatory obligation
- Public health and product safety
- Risk or damage to the environment
- Criminal activity
- Bribery, facilitation of tax evasion or money laundering
- Privacy and data protection breaches
- Anti-competitive conduct
- Breaches of sanctions
- Violations of human rights, such as modern slavery and human trafficking
- Attempts to cover up any of these behaviors

Reporting Concerns

If you are an Apple employee, you can contact Apple's Business Conduct team by phone, email, or through the Business Conduct website. You can also report concerns to your manager, the People team, or Legal. If you believe you have been harassed or discriminated against, or have witnessed such behavior, visit the People team's internal [Reporting a Concern](#) page.

Apple's external helpline (apple.ethicspoint.com) is available for both internal and external parties to report concerns, and provides the option of anonymous reporting, where permissible under applicable laws. The external helpline is available at any time, and provides online reporting as well as local, toll-free phone numbers that connect reporters to a multilingual reporting service.

Concerns regarding accounting or auditing matters can be directed to the Audit and Finance Committee through the above internal and external channels.

When making your report, we encourage you to provide as much detail as possible concerning the suspected wrongdoing. This will allow us to conduct any investigation promptly and effectively.

Reporting Wrongdoing Outside of Apple

Many laws and regulators require or encourage current and former employees to first report their concerns internally, and we encourage any individual to report their concerns directly to Apple. This allows Apple to use all its investigate resources to look into the concern. However, Apple recognizes the rights of its employees to raise concerns externally, including making disclosures to prescribed persons or bodies under local laws, such as local regulators, in certain cases. You are also permitted to speak freely about your wages, hours, and working conditions, including information about harassment, discrimination, or any other conduct you have reason to believe is unlawful, and nothing in this Policy, or any Apple policy, should be interpreted as being restrictive of your right to do so.

External reporting may be appropriate if there is immediate and significant danger to the public interest, reasonable suspicion that the company at large is involved in the suspected wrongdoing, or a clear risk of evidence being falsified or destroyed. Nothing in this policy will prevent you from communicating your concern, as covered by this policy, to a regulator or certain third parties, provided any such communications comply with applicable legal requirements.

If external reporting is appropriate, we strongly encourage you to seek local advice before reporting a concern externally. In many jurisdictions there are designated bodies to which such reports must be made.

Confidentiality

Apple will treat all disclosures of suspected wrongdoing in a confidential and sensitive manner and maintain your privacy. Confidential means that your identity will be shared only with those who have a need to know in order to effectively conduct any investigation and follow up action (including, if necessary, disciplinary action) on your concern, or where there is a legal requirement to share your identity.

You should only disclose information that is relevant to the concern and avoid providing information not relevant to the concern. Any personal information that you disclose while reporting

a concern will be managed as outlined in the [Whistleblowing Personal Information Guidelines](#). If you have further questions on the treatment of your personal data, you should contact us as detailed on the [Privacy Enquiries](#) site.

If you make an anonymous report, keep in mind that it may be more difficult to investigate an anonymous concern due to difficulty in obtaining specific details and/or answers to follow up questions. Some local laws also discourage anonymous reporting, including in most European countries, where anonymous allegations are discouraged and should be limited to accounting and internal controls issues, including fraud, inaccurate records, auditing, bribery and corruption, and other financial matters.

Regardless of how a report is made, we encourage you to share all the information you have concerning the suspected wrongdoing. Providing sufficient details will help Apple in conducting a thorough and effective investigation.

No Retaliation

Apple will not retaliate — and will not tolerate any retaliation — against any individual for raising a good-faith and genuine concern within Apple or to the appropriate body under local law, or for participating in the investigation of any complaint.

Any person who retaliates against a whistleblower, threatens any such retaliation, or is involved in any such conduct may be subject to disciplinary action, up to and including termination of employment or contractual relationship with Apple.

Regional Laws and Agencies

Some states/provinces and countries have specific laws associated with whistleblowing. Employees who would like more information on any applicable local legal requirements and resources should visit [the People site](#).

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:
Ronald Sugar
Chevron
Northrop Grumman



Ronald D. Sugar

Retired Chairman and Chief Executive Officer,
Northrop Grumman Corporation

Age 74

Director since April 2005

Independent: Yes

Chevron Committees: Board Nominating and Governance; Management
Compensation

Current Public Company Directorships: Amgen Inc.; Apple Inc.; Uber
Technologies, Inc.

Dr. Sugar is a senior advisor to various businesses and organizations, including Ares Management LLC, a private investment firm; Bain & Company, a global consulting firm; Temasek Americas Advisory Panel, a private investment company based in Singapore; and the G100 and World 50 peer-to-peer exchanges for current and former senior executives and directors from some of the world's largest companies. He was previously Northrop Grumman Corporation's Chairman and Chief Executive Officer, from 2003 until his retirement in 2010, and President and Chief Operating Officer, from

2001 until 2003. He joined Northrop Grumman in 2001, having previously served as President and Chief Operating Officer of Litton Industries, Inc., a developer of military products, and earlier as an executive of TRW Inc., a developer of missile systems and spacecraft.

Prior Public Company Directorships (*within last five years*): Air Lease Corporation

Other Directorships and Memberships: Los Angeles Philharmonic Association; National Academy of Engineering; Nexii Building Solutions, Inc.; UCLA Anderson School of Management Board of Visitors; University of Southern California

Skills and qualifications

Business Leadership/Operations: Served seven years as CEO of Northrop Grumman. Held senior management and executive positions, including service as COO, at Northrop Grumman, Litton Industries, Inc., and TRWInc.

Environmental Affairs: As Chairman, CEO, and President of Northrop Grumman, oversaw environmental assessments and remediations at shipyards and aircraft and electronics factories.

Finance: Former CFO of Fortune 500 company. More than three decades of financial responsibility and experience at Northrop Grumman, Litton Industries, Inc., and TRWInc. Current Audit Committee Chair at Apple Inc. and former Audit Committee Chair at Chevron.

Global Business/International Affairs: Former CEO of Fortune 500 company with extensive international operations. Current and former director of companies with international operations.

Government/Regulatory/Public Policy: At Northrop Grumman, a key government contractor, oversaw development of weapons and other technologies. Appointed by the President of the United States to the National

Security Telecommunications Advisory Committee. Former director of the World Affairs Council of Los Angeles.

Leading Business Transformation: As Chairman, President & CEO of Northrop Grumman, led the business and cultural integration of 27 acquisitions into one Northrop Grumman. Led strategic repositioning of company from a traditional Cold War combat aircraft manufacturer into a diversified defense electronics, information, aeronautics, space and shipbuilding enterprise. Brought in as independent board chairman of Uber to oversee strategic, cultural, and corporate governance transformation in advance of IPO and subsequent large-cap publicly traded company.

Science/Technology/Engineering: B.S., M.S., and Ph.D. in engineering from the University of California at Los Angeles. Served in a variety of senior management and executive positions at Northrop Grumman, Litton Industries, Inc., and TRW Inc., requiring expertise in engineering and technology. Director at Amgen Inc., a biotechnology company; Apple Inc., a designer, manufacturer, and marketer of, among other things, personal computers and mobile communication and media devices; Chairman of the Board at Uber Technologies, Inc. (“Uber”), a technology company; and former director at BeyondTrust, a global cybersecurity company. Member of National Academy of Engineering.

Updated: October 2022

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Ronald D. Sugar Elected President and Chief Operating Officer of Northrop Grumman

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September 20, 2001

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LOS ANGELES, Sept. 20, 2001 (PRIMEZONE) -- Northrop Grumman Corporation (NYSE:NOC) has named Ronald D. Sugar, 53, president and chief operating officer, it was announced today by Kent Kresa, chairman and chief executive officer. Dr. Sugar was elected to Northrop Grumman's board of directors last April.

Mr. Kresa stated, "With our recent acquisition of Litton Industries, Northrop Grumman is now a \$15 billion top-tier global enterprise with 80,000 employees. Ron's appointment provides our company with additional management depth, experience and expertise at an important time in our company's history. This strengthened corporate management structure will support and complement the outstanding leadership we have in place at our five sectors."

Mr. Kresa added, "Ron has demonstrated excellent leadership and management capabilities in many capacities throughout his distinguished career and, since the Litton acquisition, he has played a key role in quickly and successfully integrating the Litton operations into the company. Ron's knowledge and understanding of the operations of both Litton and Northrop Grumman will serve him well in his new position. I look forward to working with him as we manage and grow our businesses around the world."

Dr. Sugar stated, "I am extremely pleased to be given this opportunity. I believe in the strategic vision Kent Kresa has set for our company, and I am looking forward to working closely with the outstanding leadership team we have in place."

For the past 11 years, Mr. Kresa has held the position of chairman, president and chief executive officer, leading Northrop Grumman in its transition from primarily an aircraft company to a leading defense electronics, information technology, systems integration, ship systems and component technologies enterprise.

The company also announced that effective immediately it has also established an Office of the Chairman, which will consist of the corporation's chairman and chief executive officer and the president and chief operating officer. The Office of the Chairman will be responsible for the total operations of the corporation.

Mr. Kresa further stated, "In light of the tragic events of last week, it has become manifestly clear how important defense companies are to this nation. We want to be sure that we are in the best possible position to serve the best interests of America, our employees, customers and shareholders."

Prior to joining Northrop Grumman, Dr. Sugar was president and chief operating officer of Litton Industries and a member of the Board of Directors. Prior to Litton, he was president and chief operating officer of TRW Aerospace and Information Systems and a member of the three-man Chief Executive Office of TRW Inc., a \$17 billion global automotive, aerospace and information systems company. In his nearly 20 years with TRW, Dr. Sugar also served as chief financial officer of the corporation and as executive vice president and general manager of TRW's global automotive electronics business.

Dr. Sugar graduated summa cum laude in electrical engineering from the University of California at Los Angeles, where he also received his master's and doctoral degrees in the same field. In 1996, he was honored by his alma mater as Alumnus of the Year.

Dr. Sugar was appointed by the President of the United States to the National Security Telecommunications Advisory Committee. He is a trustee of the National Defense Industrial Association, and has served on the board of governors of the Aerospace Industries Association and on the Conference Board Council of Operating Executives.

He and his wife, Valerie, who have two grown children, reside in Westlake Village, Calif.

Northrop Grumman Corporation is a \$15 billion, global aerospace and defense company with its worldwide headquarters in Los Angeles. Northrop Grumman provides technologically advanced, innovative products, services and solutions in defense and commercial electronics, systems integration, information technology and non-nuclear shipbuilding and systems. With 80,000 employees and operations in 44 states and 25 countries, Northrop Grumman serves U.S. and international military, government and commercial customers.

CONTACT: Bob Bishop
(310) 201-3335

Randy Belote
(703) 875-8525

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Media Contact

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Dr. Ronald D. Sugar, President, Northrop Grumman (d=20358)
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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

**Apple “Enviroment” “Additional Questions”
Webpage**

Additional Questions

More answers to your questions about Apple and the environment.

1. Who leads environmental efforts at Apple?

Lisa P. Jackson is Apple's vice president of Environment, Policy and Social Initiatives, reporting to CEO Tim Cook. The Office of Environment, Policy and Social Initiatives works with teams across Apple to set strategy, engage stakeholders, and measure and communicate progress on Apple's commitments to address climate change, develop green materials for safer products, and use materials as efficiently as possible.

Apple's Board of Directors oversees the CEO and other senior management in the competent and ethical operation of Apple on a day-to-day basis and ensures that the long-term interests of shareholders are being served. Our integrated approach means that decisions about environmental and social issues are reviewed at the highest levels of the company. Executive Team members regularly review each new product during its development, focusing on material and design choices, the supply chain, packaging, and product energy efficiency.

2. How does Apple plan to reach carbon neutrality by 2030?

As a large global company, we believe it's our responsibility to take strong, decisive, and inclusive steps to mitigate our impact on the climate. We've committed to achieving carbon neutrality across our entire value chain, including all our products, by 2030 — reducing emissions by 75 percent compared with 2015. We're cutting the majority of emissions through innovations in materials, clean energy, and low-carbon shipping. And we're investing in nature-based projects to offset the small amount that remains. Our 2030 goal is more aggressive than the Intergovernmental Panel on Climate Change's recommendation for global carbon neutrality within 20 years. We've already made progress by cutting emissions across our value chain by over 45 percent since 2015.

3. How does Apple conduct its Product Greenhouse Gas Life Cycle Assessment?

Environment

When conducting a product life cycle assessment (LCA), we calculate carbon emissions using the 100-year time horizon global warming potentials from the IPCC Sixth Assessment Report, 2023 (AR6) GWP₁₀₀, including biogenic carbon. The

[2023 Report \(PDF\)](#)

following details the five steps we use to conduct our LCA:

1. To model the manufacturing phase, we use part-by-part measurements of the entire product along with data on part production. In some cases where part-by-part data is not readily available, we also use design-level data for size and weight detail. The measurements help us accurately determine the size and weight of the components and materials in the product, while data on manufacturing processes and yield loss during production allows us to account for the impact of manufacturing. The LCA includes accessories and packaging, as well as decreased emissions through Apple's Supplier Clean Energy Program. When calculating Apple's comprehensive carbon footprint, we also include units that are repaired and replaced through AppleCare.
2. To model customer use, we measure the power consumed by a product while it is running in a simulated scenario. Daily usage patterns are specific to each product and are a mixture of actual and modeled customer use data. For the purposes of our assessment, years of use, which are based on first owners, are modeled to be four years for macOS and tvOS devices and three years for iOS, iPadOS, and watchOS devices. Most Apple products last longer and are often passed along, resold, or returned to Apple by the first owner for others to use. More information on our product energy use is provided in our [Product Environmental Reports](#).
3. To model transportation, we use data collected on shipments of single products and multipack units by land, sea, and air. We account for transporting materials between manufacturing sites; transporting products from manufacturing sites to regional distribution hubs; transporting products from regional distribution hubs to individual customers; and transporting products from final customers to recycling facilities.
4. To model end of life, we use material composition data on our products and estimate the ratio of products that are sent to recycling or disposal. For products sent to recycling, we capture the initial processing by the recycler to prepare the product for recovery of electronic, metal, plastic, and glass material streams. Subsequent downstream recycling processes are not included, as these are considered stages of production and not end-of-life processing. For products sent

to disposal, we capture the emissions associated with landfilling or incineration of each type of material.

5. After we collect data about manufacturing, use, transportation, and end of life, we combine it with detailed greenhouse gas emission data. This emission data is based on a combination of Apple-specific and industry-average datasets for material production, manufacturing processes, electricity generation, and transportation. Renewable energy used in the supply chain, initiated by suppliers independently or through the Apple Supplier Clean Energy Program, is also accounted for within the LCA model. Combining product-specific information with emission data in our LCA allows us to compile detailed results for greenhouse gas emissions as they relate to each product. The data and modeling approaches are checked for quality and accuracy by the Fraunhofer Institute in Germany.

There is inherent uncertainty in modeling carbon emissions due primarily to data limitations. For the top component contributors to Apple's carbon emissions, Apple addresses this uncertainty by developing detailed process-based environmental models with Apple-specific parameters. For the remaining elements of Apple's carbon footprint, we rely on industry-average data and assumptions.

4. Does Apple report country-specific environmental data?

Yes. We break down our scope 1 and 2 emissions, natural gas use, and electricity use for select geographies in our [2023 Environmental Progress Report \(PDF\)](#). The report also provides further information on energy use at our data centers.

5. Does Apple have an Environmental Health and Safety Policy?

Yes. Apple is committed to protecting the environment and the health and safety of our employees, our customers, and the global communities in which we operate. For more information, read our [Environmental Health and Safety Policy Statement \(PDF\)](#).

6. Does Apple restrict substances that are hazardous to human health and the environment?

Yes. Apple's Regulated Substances Specification details a broad range of substances that are restricted or banned from use in Apple products, packaging, and

manufacturing. All Apple products conform to the European Restriction of Hazardous Substances (RoHS) Directive, which restricts the use of lead and other substances. Apple defines a material as RoHS compliant if it conforms to European Union Directive 2011/65/EU and its amendments, including exemptions for the use of lead. Apple is working to phase out the use of these exempted substances where technically possible. As a result of our approach to substances, many of Apple's restrictions exceed regulatory requirements. View Apple's [Regulated Substances Specification \(PDF\)](#) to learn more about our efforts to reduce and eliminate hazardous substances.

7. Does Apple restrict brominated flame retardants (BFRs) and polyvinyl chloride (PVC) from its products?

Yes. Apple defines a material as BFR-free and PVC-free if there is no intentional use and it otherwise contains less than 900 parts per million (ppm) of bromine and of chlorine. Apple led the industry in the phaseout of BFRs and PVC, and this 900-ppm limit is now standard in the electronics industry. If BFRs or PVC were present, the bromine or chlorine levels would need to be significantly higher than 900 ppm in order to be effective.

Apple's phaseout of BFRs and PVC covers all new Apple product designs manufactured since 2009, all Beats products manufactured since 2016, and Beddit Sleep Monitors manufactured since late 2018. While Apple's phaseout covers the vast majority of products and components, some older Apple product designs may not be fully BFR-free and PVC-free. However, these products, including their replacement parts and accessories, were still designed to meet regulatory requirements.

Power cords in Thailand, India, and South Korea contain PVC due to country-specific requirements. We continue to seek approval for our PVC replacement.

8. Does Apple use PFAS in its products?

At Apple, we have a long history of leading in the removal of potentially harmful substances. As part of this effort, we plan to engage all of our supply chain partners to restrict the use of per- and polyfluoroalkyl substances (PFAS) from our products and manufacturing processes and to develop safer alternatives that not only maintain, but may even enhance, the performance of Apple products. For more information on Apple's long-standing goal to design products that are better for the environment and for people, read about [our commitment to phasing out per- and polyfluoroalkyl substances \(PFAS\) \(PDF\)](#).

9. What is REACH, and how is Apple complying with the REACH regulation?

The Registration, Evaluation, Authorization and Restriction of Chemicals Regulation EC 1907/2006, commonly referred to as REACH, is a European regulation on chemicals and their safe use. With the publication of candidate lists for authorization, the European Chemicals Agency identifies sets of substances of very high concern (SVHC) that manufacturers must disclose to customers if used in articles in their products above 0.1% by weight.

Based on the current version of the candidate list for authorization, Apple products that contain the SVHCs above the disclosure threshold can be found in the [REACH SVHC Disclosure \(PDF\)](#).

The SVHCs used in these products do not pose a safety risk to customers under normal use conditions.

10. Does Apple use ozone-depleting substances?

No ozone-depleting chemicals (ODCs) are used in any processes to manufacture product components and materials, or product packaging materials used by Apple, as stipulated by the Montreal Protocol on Substances that Deplete the Ozone Layer.

11. How is Apple helping to accelerate a circular economy?

A durable device is a greener device. When products can be used longer, fewer resources need to be extracted from the earth to make new ones. Apple's continuing

focus on making the best and most durable products, coupled with expert repair services, ensures that our products are used for a very long time. When our customers are done using their devices, we make it easy to return them through Apple Trade In — so devices can be passed on to another user or recycled responsibly.

In 2017, Apple made public our commitment to one day make products using only renewable and recycled materials. And, where possible, we aim to contribute material back to the market for Apple or others to use. With advancements like Daisy, Dave, and Taz, our disassembly robots, we can recover more materials at a higher quality than through traditional recycling processes.

We have initiatives in place to ensure that the materials we use in our products are sourced responsibly — through strict standards and programs that drive positive change. We are continuing that commitment, but we are also challenging ourselves to make all our products without extracting finite resources from the earth. It's an ambitious goal that will require years of collaboration across Apple teams, our suppliers, and recyclers — but our work is already underway.

For more information on our progress to date, read the [2023 Environmental Progress Report \(PDF\)](#).

12. Is Apple reducing its use of plastics?

Apple is committed to eliminating plastics in our packaging by 2025 and transitioning to recycled and renewable plastics in our products.

We've already made significant progress in eliminating plastics in our packaging. In 2022, only 4% of our packaging footprint was from plastic — down from 21% in 2015 — and 66% came from recycled fiber. Since 2017, 100% of the virgin wood fiber in our packaging has come from responsible sources.

Beginning in fiscal year 2022, we expanded our packaging goal boundary to better reflect our impact, resulting in an increase of about 36% of our total packaging mass, as reported in our 2023 Environmental Progress Report. We're now including retail bags, all finished-goods boxes (including plastic content in labels and in-box documentation), packaging sent to our customers as part of Apple Trade In, AppleCare packaging for whole units and service modules (with the exception of plastics needed to protect items from electrostatic discharge), and secondary packaging of Apple products and accessories sold by Apple. Our goal boundary does not include the inks, coatings, or adhesives used in our packaging. In addition to our packaging footprint, we also calculate the fiber used at our corporate facilities. In fiscal year 2022, this number was 632 metric tons.

13. Where can I find the product sheet on environmental qualities and characteristics, as required by the AGECE law?

The product sheet on environmental qualities and characteristics is a requirement in France, under [Article 13 of the Circular Economy law \(AGECE\)](#). Apple has made this information available for its products on the [Product sheet on environmental qualities and characteristics web page](#).

14. How do I make the most of the battery in my Apple device?

You can learn more about how your battery charges and maximizing battery performance by visiting apple.com/batteries/maximizing-performance.

15. When and how should I get the battery of my Apple device replaced?

You can learn more about servicing and recycling your battery by visiting apple.com/batteries/service-and-recycling.

16. Does Apple offer repair for its products?

We design our products to be durable and long-lasting with minimal need for repair. But we believe that if a repair is needed, customers should have easy access to convenient, high-quality repair services. Repair options include Apple Store locations, Apple Authorized Service Providers, the Apple Contact Center, and onsite service. In the past three years we've expanded our repair services — nearly doubling the number of professional service locations that have access to genuine Apple parts, tools, and training. We also continue to expand coverage by offering repair service at our customers' homes and offices in select cities across the United States.

Since 2019, our Independent Repair Provider program has enabled more than 4000 independent repair businesses of all sizes to access genuine Apple parts, tools, diagnostics, and training. The Independent Repair Providers, along with a global network of more than 5000 Apple Authorized Service Providers, represent a workforce of more than 100,000 service technicians offering support to customers who need repairs.

In 2022 we introduced Self Service Repair, providing individuals who have the knowledge and experience to repair electronic devices with access to repair manuals and genuine Apple parts and tools through the Apple Self Service Repair Store. Self Service Repair is available in the United States and Europe — including Belgium, France, Germany, Italy, Poland, Spain, Sweden, and the United Kingdom.

17. Does Apple offer recycling?

Apple provides product take-back and recycling collection programs in 99% of the countries where we sell products. These include our trade-in program, now available in 25 countries. [Apple Trade In](#) lets customers recycle any Apple device (including devices from Apple-owned brands) for free. Apple Trade In includes recycling for batteries and electronic products as well as free, on-demand packaging recycling for our commercial, education, and institutional customers. When we receive a device, it is thoroughly inspected and assessed for reuse or recycling. And end-of-life iPhone devices collected in select regions will be sent to our disassembly robot, Daisy, the most innovative and efficient way to reclaim more of the valuable materials in iPhone.

For more information about how to recycle devices, including in countries where Apple Trade In is not available, please visit our [Apple Reuse and Recycling Program](#) site.

18. Does Apple set standards for environmental protection and worker rights in its supply chain?

The Apple Supplier Code of Conduct outlines the high standards our suppliers must meet for labor and human rights, health and safety, environmental protections, management systems, and ethics. We require that all suppliers doing business with Apple adhere to our Supplier Code of Conduct and the associated Supplier Responsibility Standards. To enforce the code, we conduct rigorous assessments, reviewing over 500 criteria. When a violation of our code is identified, we require our suppliers to take immediate action, and we partner with them to help improve their operations and meet our standards. To learn more, visit our [Supplier Responsibility website](#).

19. Does Apple work with environmental NGOs or other partners?


We work with a wide range of nonprofit, industry, government, and business partners around the world. We collaborate with other best-in-class companies across all our environmental initiatives through our memberships in organizations like Ceres and the World Business Council for Sustainable Development (WBCSD). On our climate change efforts, we work with organizations including Advanced Energy Economy (AEE), RE100, the Japan Climate Leaders' Partnership, and We Mean Business. Our work on creating circular material supply chains is supported by our membership with the Aluminum Stewardship Initiative and the Platform for Accelerating the Circular Economy (PACE). We're also members of Green America's Clean Electronics Production Network (CEPN) and the Green Chemistry and Commerce Council (GC3). For more information on our partnerships, read the [2023 Environmental Progress Report \(PDF\)](#).

20. Does Apple have an ISO 14001 certification?

Yes. Apple operates a manufacturing facility in Cork, Ireland, and we certify 100% of this facility with ISO 14001. The full certification is included in the appendix of our [2023 Environmental Progress Report \(PDF\)](#).

21. Does Apple comply with the European Union Waste from Electrical and Electronic Equipment (WEEE) Directive?

Where Apple is deemed the producer of electronic equipment in the European Union, we comply with the European Union Waste Electrical and Electronic Equipment (WEEE) Directive. To comply with national take-back and recycling requirements stemming from the EU WEEE Directive, Apple is a member of Producer Compliance Schemes in every country in which we have an obligation. Product information guides — provided with the product and found at support.apple.com/manuals — include information about the meaning of the wheelie bin symbol applied to products and packaging and information about how to properly dispose of electronic waste. Upon request, Apple also provides recyclers with technical information to assist with treatment and recycling. As indicated on our [Apple Trade In website](#) under More Ways to Recycle, independent recycling professionals can obtain removal instructions for the battery and other components requiring selective treatment by contacting [Apple Support](#). Apple also participates in the [I4R Platform](#), the Information for Recyclers platform by DIGITALEUROPE, APPLiA, and the WEEE Forum, where recyclers can access recycling information at a product category level.

 > Environment > Answers

Shop and Learn

Store

Mac

iPad

iPhone

Watch

Vision

AirPods

TV & Home

AirTag

Accessories

Gift Cards

Apple Wallet

Wallet

Apple Card

Apple Pay

Apple Cash

Account

Manage Your Apple ID

Apple Store Account

iCloud.com

Entertainment

Apple One

Apple TV+

Apple Music

Apple Arcade

Apple Fitness+

Apple News+

Apple Podcasts

Apple Books

App Store

Apple Store

Find a Store

Genius Bar

Today at Apple

Apple Camp

Apple Store App

Certified Refurbished

Apple Trade In

Financing

Carrier Deals at Apple

Order Status

Shopping Help

For Business

Apple and Business

Shop for Business

For Education

Apple and Education

Shop for K-12

Shop for College

For Healthcare

Apple in Healthcare

Health on Apple Watch

Health Records on iPhone

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United States

<https://www.apple.com/environment/answers/>

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

International Transport Workers Federation
2015 Chevron Shareholder Letter

<https://www.itfglobal.org/sites/default/files/resources-files/15en0420smcsentchevronshareholderswithholdnominations.pdf>



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International Transport Workers' Federation
Federación Internacional de los Trabajadores del Transporte
Fédération internationale des ouvriers du transport
Internationella Transportarbetarefederationen
Internationale Transportarbeiter-Föderation
Международная федерация транспортников
التنظيم عالمياً، النضال من أجل حقوقنا

Please WITHHOLD Support from Nominating Committee Chair Robert Denham and Audit Committee Chair Ronald Sugar at Chevron's (NYSE:CVX) Annual Meeting on May 26, 2015

20 April 2015

Dear Chevron Shareholder,

We write to urge you to **WITHHOLD** support from directors Robert Denham and Ronald Sugar at Chevron's upcoming annual meeting for the following reasons:

- We believe that withholding support from Audit Committee Chair Ronald Sugar is appropriate to send a message that recent disclosures about critical projects should be improved. Mr. Sugar also serves as a Trustee of a university to which Chevron has contributed over USD 59 million, which in our view undermines independence.¹
- During Robert Denham's tenure as chair of the Nominating Committee, the board has remained insular, which we are concerned may limit the perspectives to which the board is exposed. Withholding support from Mr. Denham would communicate that shareholders want a diverse, less enmeshed board. Additionally, Oaktree Capital, a private equity firm of which Mr. Denham is a director, purchased Chevron's renewable energy business in September 2014.²

Shifting and Poor-quality Disclosure May Keep Investors from Having a Complete View of Future Prospects and Risks

The International Transport Workers Federation is an organization of unions involved in the transportation sector. Our membership includes affiliated unions that represent workers at Chevron and its sub-contractors.³ We are concerned that Chevron is facing some very difficult challenges — geo-political change, falling oil prices, and an unsteady economic recovery — which create uncertainty about the company's prospects. Given these challenges, we believe it is especially important that shareholders are provided with timely and accurate information regarding Chevron's risks and prospects.

The Charter for Chevron's Audit Committee states that the Committee "assist[s] the Board of Directors in fulfilling its oversight responsibility with respect to the Corporation's fair dissemination of accurate information in compliance with securities laws." While we are not now asserting that Chevron has violated SEC rules or laws, we believe that

The ITF is not accepting proxy cards, complete and return your card as instructed in the Chevron proxy statement.

¹ See Announcement from Viterbi, "Longtime Partner of USC, Chevron Reveals a Lifetime Investment" from November 13, 2014. Available online at http://viterbicms.usc.edu/sites/74592_cisoft1167873786/assets/026/93515.pdf

² See Opterra Energy Press Release September 9, 2014. <http://www.prnewswire.com/news-releases/oaktree-transforms-opterra-energy-group-with-acquisition-of-chevron-energy-solutions-energy-services-business-274473231.html>

³ We do not directly hold shares in Chevron but many of our affiliates participate in employee benefit funds that have holdings in the company. We represent workers at Chevron and its subcontractors in countries across the globe, several of our affiliates are involved in on-going labour disputes with Chevron and/or its subcontractors.



<https://www.itfglobal.org/sites/default/files/resources-files/15en0420smcsentchevronshareholderswithholdnominations.pdf>

certain disclosures should be improved, as discussed below, to give investors a fuller picture of Chevron's prospects and risks.

Chevron's growth is highly dependent on the development of a few projects. In particular, the Gorgon and Wheatstone projects in Western Australia are likely to propel the company's growth for many years to come. Chevron has told investors that its growth prospects depend on adding roughly 700 MBOED by 2017. Of this additional capacity, roughly one-quarter is likely to be added by the Gorgon project. Then again this past March in a presentation to security analysts, Vice-President Jay Johnson described Gorgon, Wheatstone and the Jack St. Malo projects as, "the next generation of projects that will not only drive our growth but will also renew our base."

However, disclosures about the cost, timing and working conditions on the Gorgon project have frequently been revised. Chevron management has repeatedly changed estimates about the scale of delays and cost overruns. Initial estimates for the Gorgon project from securities filings in 2009 indicated that the project would be complete by mid-2014 and cost roughly USD 37 billion. Chevron now projects Gorgon to have first gas delivered in the fourth quarter of 2015, and the cost overrun is estimated at USD 14 billion or roughly 45% more than initially calculated. But project partner Shell has released far different estimates, counting on project commencement between 2016 and 2018.

This is not a typical project; almost 90% of Chevron's capital expenditure for the past few years has gone towards upstream projects and the single most significant project for Chevron has been Gorgon. When contrasted with similarly sized and complex projects the Gorgon project is one of the longest-delayed and most over-budget projects. In an analysis conducted by the research firm Enalytica and presented to the state legislature in Alaska, Gorgon is ranked as the second most over-budget and longest delayed LNG project.

Project and major owners	Delay	Percent over-run
Sakhalin 2 (RUS- Gazprom, Shell, Mitsui & Mitsubishi)	2 Years	120%
Gorgon (AUS – Chevron, Exxon, Shell)	1.5-2+ Years	45+%
Queensland-Curtis (AUS –BG Group, CNOOC)	Unknown	36%
Gladstone LNG (AUS-Santos, Petronas, Total & KOGAS)	Unknown	15%
Papua New Guinea (PNG- Exxon, Oil Search & Santos)	Unknown	26%
Angola (ANG- Chevron, Sonangol, BP, Eni and Total)	1.5-2 Years	Unknown
Pluto (AUS – Woodside & Kansai)	1.5 Years	33%
Snohvit (NOR- Statoil, Hess, Petoro and GDF Suez)	1.5 Years	21%

Source: Enalytica and company reports

Adding to the uncertainty about this project are comments made recently by Chairman and CEO, John Watson, who answered questions in January about labour relations on the Gorgon project by claiming, "We're monitoring very closely contractor performance and productivity on the Island; we're working with the unions on contracts and industrial relations."

In reality, industrial relations on the project are deteriorating. As the project has been further delayed, more collective bargaining agreements have come up for renegotiation and several unions are proceeding towards votes authorizing industrial actions up to and including strikes. As recently as April 10, 2015, workers at CB&I, one of the major construction contractors on the Gorgon project, rejected a collective bargaining proposal, making strikes or other activity more likely.⁴

Gorgon is not the only major project where additional disclosure would be useful to investors. In last year's annual report, Chevron did not disclose that its operations in Angola had ceased due to a pipeline rupture. Chevron acknowledged that fact only after it was reported in the *Wall Street Journal*. Chevron is currently reporting that the

The ITF is not accepting proxy cards, complete and return your card as instructed in the Chevron proxy statement.

⁴ See Workplace Express, Friday April 10, 2015 "Industrial Action on Horizon After Workers Vote Down Revised Gorgon offer"

<https://www.itfglobal.org/sites/default/files/resources-files/15en0420smcsentchevronshareholderswithholdnominations.pdf>

pipeline will be repaired and the project operational by early 2016, but we believe this may be overly optimistic given the potential for civil unrest in Cabinda.⁵

Finally, there is also evidence that more robust oversight — including oversight of financial reporting — may be needed in some of the company's operations in the Congo. Recent litigation in the Southern District of New York, *Osman v. Chevron*, reveals documents including a putative Chevron power-point presentation entitled "Lessons Learned in the Congo." Included in the presentation's narrative are statements that in setting up operations in the Congo there was "Inadequate due diligence in hiring; Finance was not involved in the initial recruitment of accountants when the business was set-up in 2003." The presentation also states, "Lack of in country management oversight meetings impeded cross functions of communications." These allegations underline the importance of Audit Committee oversight of financial reporting. (This litigation is on-going and none of the allegations from it have yet been proven in court.)

We are concerned about the independence of Mr. Sugar, who chairs the Audit Committee. He has been a trustee of the University of Southern California (USC) since 2003. He and his family have invested significant time and resources in supporting USC. With his wife, who is an alumna of the university, Mr. Sugar donated USD 5 million and created the Ronald and Valerie Sugar Dean's Chair of the University of Southern California Libraries. He also served as the Judge Widney Professor of Management and Technology and chaired the Academic Affairs Committee on the Board of Trustees. In 2014, Chevron was recognized by USC for providing over USD 59 million in support for its engineering program.⁶

Although Mr. Sugar is considered independent under the NYSE's listing standard and SEC rules, we believe that Chevron's support for USC may undermine Mr. Sugar's ability to question Chevron's management. The Delaware Chancery Court, in a 2003 opinion in a case brought against Oracle Corp., denied Oracle's motion to terminate a derivative action on the basis that some members of a special litigation committee recommending termination were not independent because they were professors at Stanford, to which Oracle had contributed substantial sums. The court evaluated independence by taking into account "the thickness of social and institutional connections" as well as purely financial factors.⁷ In our view, the thickness of the connections among Mr. Sugar, USC and Chevron should be considered in evaluating Mr. Sugar's suitability to serve as Audit Committee chair.

Nominating Committee Chair Robert Denham is Insufficiently Independent and Has Presided Over the Committee as the Board Has Become More Insular

Director Robert Denham has served as Chair of the Nominating Committee since 2011. In that capacity, he is responsible (along with the other committee members) for vetting and nominating new directors.

The Charter of the Nominating and Governance Committee states,

The Committee shall investigate suggestions for candidates for membership on the Board of Directors and shall recommend prospective Directors, as required, to provide an appropriate balance of knowledge, experience and capability on the Board of Directors, including stockholder nominations for the Board of Directors.⁸

On Mr. Denham's watch, the board has continued to be composed of directors affiliated with just a few companies. Multiple directors are affiliated with Coca-Cola, Amgen, and Wells Fargo. Over the course of Mr. Denham's tenure as chair, while there has been director turnover, the strength of these ties does not appear to have diminished significantly.

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⁵ See description of attacks on expatriates and Angolan Armed Forces <http://travel.state.gov/content/passports/english/country/angola.html>

⁶ <http://news.usc.edu/1019/Top-flight-Trustee/>

⁷ See Oracle Corp. Derivative Litig., 824 A.2d 917, 938 (Del. Ch. 2003)

⁸ See Charter. <http://www.chevron.com/documents/pdf/boardnominatingandgovernancecommitteecharter.pdf>

<https://www.itfglobal.org/sites/default/files/resources-files/15en0420smcsentchevronshareholderswithholdnominations.pdf>

Companies with two directors or executives on the Chevron board

Company	Affiliated Chevron Board Members
Coca-Cola	Carl Ware, former executive Alexander Cummings, Jr. executive
Amgen	Ronald Sugar, Amgen Board Member Kevin Sharer, ex-CEO
Wells Fargo	Enrique Hernandez, Wells Fargo Board Member John Stumpf, CEO

With this concentration, the board loses an important opportunity to draw on a greater range of experiences and opinions, as the Nominating Committee Charter asserts should be represented on the board. Moreover, there is evidence that greater interconnectedness is associated with governance practices that may not be in the best interests of shareholders.⁹

Additionally, while Mr. Denham is a seasoned executive with extensive business experience, including serving as the Lead Independent Director at Chevron, one of the companies on which he is a Board member, OakTree Capital, bought Chevron's renewable energy business in September 2014.¹⁰ We believe that at a minimum this creates the appearance of an affiliation that may undermine Mr. Denham's ability to exercise independent oversight.

In addition to withholding support from Mr. Sugar and Mr. Denham's re-election to the board, we note that two shareholder proposals on the ballot may provide mechanisms for increasing accountability and independence of the board. Proposal 10 urges the adoption of a "proxy access" bylaw that would allow significant long-term shareholders to nominate a limited number of candidates for election to the board. As well, Item 11 advocates for an independent board chair.

If you need additional information, please contact Ahmer Qadeer at Qadeer_Ahmer@itf.org.uk or Tom Powdrill at Powdrill_Tom@itf.org.uk.

Sincerely,



Stephen Cotton
ITF General Secretary

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⁹ See Paul Hodgson, "Why Should We Care About Corporate Interlocks?" *Forbes*, Dec. 5, 2012.

¹⁰ See announcement at <http://www.prnewswire.com/news-releases/oaktree-transforms-opterra-energy-group-with-acquisition-of-chevron-energy-solutions-energy-services-business-274473231.html>

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:
Heinen and Anderson
SEC/DOJ Lawsuits

Nancy R. Heinen

U.S. SECURITIES AND EXCHANGE COMMISSION**Litigation Release No. 20683 / August 14, 2008*****Securities and Exchange Commission v. Nancy R. Heinen, Case No. C-07-2214 (JF) (N.D. Cal.)*****SEC Settles Options Backdating Charges With Former Apple General Counsel For \$2.2 Million**

The Securities and Exchange Commission today announced that it has settled options backdating charges against Nancy R. Heinen, the former General Counsel of Apple, Inc. As part of the settlement Heinen, of Portola Valley, California, agreed (without admitting or denying the Commission's allegations) to pay \$2.2 million in disgorgement, interest and penalties, be barred from serving as an officer or director of any public company for five years, and be suspended from appearing or practicing as an attorney before the Commission for three years.

The settlement stems from a complaint filed by the Commission in April 2007 in federal court in the Northern District of California. According to the complaint, Heinen caused Apple to fraudulently backdate two large options grants to senior executives of Apple â€" a February 2001 grant of 4.8 million options to Apple's Executive Team and a December 2001 grant of 7.5 million options to Apple Chief Executive Officer Steve Jobs â€" and altered company records to conceal the fraud. The complaint alleges that as a result of the backdating Apple underreported its expenses by nearly \$40 million.

In the first instance, Apple granted 4.8 million options to six members of its Executive Team (including Heinen) in February 2001. Because the options were in-the-money when granted (i.e. could be exercised to purchase Apple shares at a below market price), Apple was required to report a compensation charge in its publicly-filed financial statements. The Commission alleges that, in order to avoid reporting this expense, Heinen caused Apple to backdate options to January 17, 2001, when Apple's share price was substantially lower. Heinen is also alleged to have directed her staff to prepare documents falsely indicating that Apple's Board had approved the Executive Team grant on January 17. As a result, Apple failed to record approximately \$18.9 million in compensation expenses associated with the option grant.

The Commission's complaint also alleges improprieties in connection with a December 2001 grant of 7.5 million options to CEO Steve Jobs. Although the options were in-the-money at that time, Heinen â€" as with the Executive Team grant â€" caused Apple to backdate the grant to October 19, 2001, when Apple's share price was lower. As a result, the Commission alleges that Heinen caused Apple to improperly fail to record \$20.3 million in compensation expense associated with the in-the-money options grant. The Commission further alleges that Heinen then signed fictitious Board minutes stating that Apple's Board had approved the grant to Jobs on October 19 at a "Special Meeting of the Board of Directors" â€" a meeting that, in fact, never occurred.

As part of the settlement, Heinen consented (without admitting or denying the allegations) to a court order that:

- enjoins her from violations of Section 17(a) of the Securities Act of 1933 and Sections 10(b), 13(b)(5), and 16(a) of the Securities Exchange Act of 1934 and Rules 10b-5, 13b2-1, 13b2-2, and 16a-3 thereunder, and from aiding and abetting violations of Sections 10(b), 13(a), 13(b)(2)(A), 13(b)(2)(B), and 14(a) of the Securities Exchange Act of 1934 and Rules 10b-5, 12b-20, 13a-1, 13a-13, and 14a-9 thereunder;
- orders her to pay disgorgement of \$1,575,000 (representing the in-the-money portion of the proceeds she received from exercising backdated options) plus \$400,219.78 in interest;
- imposes a civil penalty of \$200,000; and
- bars her from serving as an officer or director of any public company for five years.

In addition, Heinen agreed to resolve a separate administrative proceeding against her by consenting to a Commission order that suspends her from appearing or practicing before the Commission as an attorney for three years.

For further information please see:

[Litigation Release No. 20086](#)

Nancy R. Heinen and Fred D. Anderson

U.S. SECURITIES AND EXCHANGE COMMISSION

Litigation Release No. 20086 / April 24, 2007

Securities and Exchange Commission v. Nancy R. Heinen and Fred D. Anderson, Case No. 07-2214-HRL (Lloyd). (N.D. Cal. filed April 24, 2007)

SEC Charges Former Apple General Counsel for Illegal Stock Option Backdating

Commission Also Settles Claims Against Former Apple CFO for \$3.5 Million

The Securities and Exchange Commission today filed charges against two former senior executives of Apple, Inc. in a matter involving improper stock option backdating. The Commission accused former General Counsel Nancy R. Heinen of participating in the fraudulent backdating of options granted to Apple's top officers that caused the company to underreport its expenses by nearly \$40 million. The Commission's complaint alleges that Heinen, of Portola Valley, California, caused Apple to backdate two large options grants to senior executives of Apple " a February 2001 grant of 4.8 million options to Apple's Executive Team and a December 2001 grant of 7.5 million options to Apple Chief Executive Officer Steve Jobs " and altered company records to conceal the fraud.

The Commission also filed, and simultaneously settled, charges against former Apple Chief Financial Officer Fred D. Anderson, of Atherton, California, alleging that Anderson should have noticed Heinen's efforts to backdate the Executive Team grant but failed to take steps to ensure that Apple's financial statements were correct. As part of the settlement, Anderson agreed (without admitting or denying the allegations) to pay approximately \$3.5 million in disgorgement and penalties.

According to the Commission's complaint, filed in the Northern District of California, Apple granted 4.8 million options to six members of its executive team (including Heinen and Anderson) in February 2001. Because the options were in-the-money when granted (i.e. could be exercised to purchase Apple shares at a below market price), Apple was required to report a compensation charge in its publicly-filed financial statements. The Commission alleges that, in order to avoid reporting this expense, Heinen caused Apple to backdate options to January 17, 2001, when Apple's share price was substantially lower. Heinen is also alleged to have directed her staff to prepare documents falsely indicating that Apple's Board had approved the Executive Team grant on January 17. As a result, Apple failed to record approximately \$18.9 million in compensation expenses associated with the option grant. Anderson, who should have realized the implications of Heinen's actions, failed to disclose key information to Apple's auditors and neglected to ensure that the company's financial statements were accurate. Both Heinen and Anderson personally received millions of dollars in unreported compensation as a result of the backdating.

The Commission's complaint also alleges improprieties in connection with a December 2001 grant of 7.5 million options to CEO Steve Jobs. Although the options were in-the-money at that time, Heinen " as with the Executive Team grant " caused Apple to backdate the grant to October 19, 2001, when Apple's share price was lower. As a result, the Commission alleges that Heinen caused Apple to improperly fail to record \$20.3 million in compensation expense associated with the in-the-money options grant. The Commission further alleges that Heinen then signed fictitious Board minutes stating that the Board had approved the grant to Jobs on October 19 at a "Special Meeting of the Board of Directors" " a meeting that, in fact, never occurred.

Heinen is charged with violating Section 17(a) of the Securities Act of 1933 and Sections 10(b), 13(b)(5), and 16(a) of the Securities Exchange Act of 1934 and Rules 10b-5, 13b2-1, 13b2-2, and 16a-3 thereunder, and Heinen is charged with aiding and abetting violations of Sections 10(b), 13(a), 13(b)(2)(A), 13(b)(2)(B), and 14(a) of the Securities Exchange Act of 1934 and Rules 10b-5, 12b-20, 13a-1, 13a-13, and 14a-9 thereunder. The Commission is seeking injunctive relief, disgorgement, and civil money penalties against Heinen, in addition to an order barring her from serving as an officer or director of a public company.

Anderson, without admitting or denying the allegations in the Commission's complaint, has agreed to a permanent injunction from further violations of Sections 17(a)(2) and 17(a)(3) of the Securities Act of 1933 and Section 16(a) of the Securities Exchange Act of 1934 and Rules 13b2-2 and 16a-3 thereunder, and from aiding and abetting further violations of Section 13(a), 13(b)(2)(A), 13(b)(2)(B), and 14(a) of the Securities Exchange Act of 1934 and Rules 12b-20, 13a-1, 13a-13, and 14a-9 thereunder. Anderson also will disgorge \$2,953,125 in ill-gotten gains, plus prejudgment interest of \$528,107.86 and will pay a civil monetary penalty of \$150,000.

► [SEC Complaint in this matter](#)



SEC Charges Former Apple General Counsel for Illegal Stock Option Backdating

Commission Also Settles Claims Against Former Apple CFO for \$3.5 Million

**FOR IMMEDIATE RELEASE
2007-70**

Washington, D.C., April 24, 2007 - The Securities and Exchange Commission today filed charges against two former senior executives of Apple, Inc. in a matter involving improper stock option backdating. The Commission accused former General Counsel Nancy R. Heinen of participating in the fraudulent backdating of options granted to Apple's top officers that caused the company to underreport its expenses by nearly \$40 million. The Commission's complaint alleges that Heinen, of Portola Valley, Calif., caused Apple to backdate two large options grants to senior executives of Apple — a February 2001 grant of 4.8 million options to Apple's Executive Team and a December 2001 grant of 7.5 million options to Apple Chief Executive Officer Steve Jobs — and altered company records to conceal the fraud.

The Commission also filed, and simultaneously settled, charges against former Apple Chief Financial Officer Fred D. Anderson, of Atherton, Calif., alleging that Anderson should have noticed Heinen's efforts to backdate the Executive Team grant but failed to take steps to ensure that Apple's financial statements were correct. As part of the settlement, Anderson agreed (without admitting or denying the allegations) to pay approximately \$3.5 million in disgorgement and penalties.

Linda Chatman Thomsen, Director of the SEC's Division of Enforcement, stated, "The Apple case demonstrates the Commission's ongoing commitment to take action against stock options backdating and other executive compensation abuses. When corporate officers enrich themselves at the expense of a company's shareholders, the Commission will hold the responsible individuals accountable, particularly where, as here, the responsible individuals are among those obligated to ensure that the company complies with all applicable securities laws and that its financial statements are accurate."

Marc J. Fagel, Associate Regional Director of the SEC's San Francisco Regional Office, stated, "Apple's shareholders relied on Heinen and Anderson, as respected legal and accounting professionals, to ensure the accurate reporting of the company's executive compensation. Instead, they failed in their duties as gatekeepers and caused Apple to conceal millions of dollars in stock option expenses."

According to the Commission's complaint, filed in the Northern District of California, Apple granted 4.8 million options to six members of its executive team (including Heinen and Anderson) in February 2001. Because the options were in-the-money when granted (i.e. could be exercised to purchase Apple shares at a below market price), Apple was required to report a compensation charge in its publicly filed financial statements. The Commission alleges that, in order to avoid reporting this expense, Heinen caused Apple to backdate options to January 17, 2001, when Apple's share price was substantially lower. Heinen is also alleged to have directed her staff to prepare documents falsely indicating that Apple's Board had approved the Executive Team grant on January 17. As a result, Apple failed to record approximately \$18.9 million in compensation expenses associated with the option grant. Anderson, who should have realized the implications of Heinen's actions, failed to disclose key information to Apple's auditors and neglected to ensure that the company's financial statements were accurate. Both Heinen and Anderson personally received millions of dollars in unreported compensation as a result of the backdating.

The Commission's complaint also alleges improprieties in connection with a December 2001 grant of 7.5 million options to CEO Steve Jobs. Although the options were in-the-money at that time, Heinen — as with the Executive Team grant — caused Apple to backdate the grant to October 19, 2001, when Apple's share price was lower. As a result, the Commission alleges that Heinen caused Apple to improperly fail to record \$20.3 million in compensation expense associated with the in-the-money options grant. The Commission further alleges that Heinen then signed fictitious Board minutes stating that the Board had approved the grant to Jobs on October

19 at a "Special Meeting of the Board of Directors" — a meeting that, in fact, never occurred.

Heinen is charged with, among other things, violating the antifraud provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934, lying to Apple's auditors, and violating prohibitions on circumventing internal controls. The Commission is seeking injunctive relief, disgorgement, and money penalties against Heinen, in addition to an order barring her from serving as an officer or director of a public company.

Anderson, without admitting or denying the allegations in the Commission's complaint, has agreed to a permanent injunction from further violations of the antifraud, reporting, internal controls, and other provisions of the federal securities laws. Anderson also will disgorge approximately \$3.49 million in ill-gotten gains and prejudgment interest, representing the in-the-money portion of the Executive Team options grant that Anderson exercised, and will pay a civil penalty of \$150,000.

The Commission also announced today that it would not bring any enforcement action against Apple based in part on its swift, extensive, and extraordinary cooperation in the Commission's investigation. Apple's cooperation consisted of, among other things, prompt self-reporting, an independent internal investigation, the sharing of the results of that investigation with the government, and the implementation of new controls designed to prevent the recurrence of fraudulent conduct.

#

For more information, contact:

Marc J. Fagel
Associate Regional Director
San Francisco Regional Office
(415) 705-2449

Michael S. Dicke
Assistant Regional Director
San Francisco Regional Office
(415) 705-2458

► Additional materials: [Litigation Release No. 20086](#)

<http://www.sec.gov/news/press/2007/2007-70.htm>

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Modified: 04/24/2007

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Ronald Sugar 2016 990-PF
Northrop Grumman Stock: page 18

2949103301101 9

Return of Private Foundation

or Section 4947(a)(1) Trust Treated as Private Foundation

OMB No 1545-0052

2016

Open to Public Inspection

Form 990-PF

Department of the Treasury
Internal Revenue Service

- Do not enter social security numbers on this form as it may be made public.
Information about Form 990-PF and its separate instructions is at www.irs.gov/form990pf.

For calendar year 2016 or tax year beginning

, and ending

Name of foundation
SUGAR FAMILY FOUNDATION

Number and street (or P O box number if mail is not delivered to street address) Room/suite
P O BOX 1501, NJ2-130-03-31

City or town, state or province, country, and ZIP or foreign postal code
PENNINGTON NJ 08534-1501

Foreign country name Foreign province/state/county Foreign postal code

A Employer identification number
47-3980241

B Telephone number (see instructions)
609-274-6834

C If exemption application is pending, check here ☐

D 1 Foreign organizations, check here ☐
2 Foreign organizations meeting the 85% test, check here and attach computation ☐

E If private foundation status was terminated under section 507(b)(1)(A), check here ☐

F If the foundation is in a 60-month termination under section 507(b)(1)(B), check here ☐

G Check all that apply ☐ Initial return ☐ Initial return of a former public charity
☐ Final return ☒ Amended return
☐ Address change ☐ Name change

H Check type of organization ☒ Section 501(c)(3) exempt private foundation
☐ Section 4947(a)(1) nonexempt charitable trust ☐ Other taxable private foundation

I Fair market value of all assets at end of year (from Part II, col (c), line 16) \$ 1,506,323

J Accounting method ☒ Cash ☐ Accrual
☐ Other (specify) _____ (Part I, column (d) must be on cash basis)

Part I Analysis of Revenue and Expenses (The total of amounts in columns (b), (c), and (d) may not necessarily equal the amounts in column (a) (see instructions))		(a) Revenue and expenses per books	(b) Net investment income	(c) Adjusted net income	(d) Disbursements for charitable purposes (cash basis only)
1	Contributions, gifts, grants, etc., received (attach schedule)	1,160,074			
2	Check <input type="checkbox"/> if the foundation is not required to attach Sch B				
3	Interest on savings and temporary cash investments				
4	Dividends and interest from securities	32,511	30,778		
5a	Gross rents				
b	Net rental income or (loss)				
6a	Net gain or (loss) from sale of assets not on line 10	49,912			
b	Gross sales price for all assets on line 6a	2,445,739			
7	Capital gain net income (from Part IV, line 2)		849,354		
8	Net short-term capital gain				
9	Income modifications				
10a	Gross sales less returns and allowances				
b	Less Cost of goods sold				
c	Gross profit or (loss) (attach schedule)				
11	Other income (attach schedule)				
12	Total. Add lines 1 through 11	1,242,497	880,132	0	
13	Compensation of officers, directors, trustees, etc				
14	Other employee salaries and wages				
15	Pension plans, employee benefits				
16a	Legal fees (attach schedule)				
b	Accounting fees (attach schedule)				
c	Other professional fees (attach schedule)	12,348	7,409		4,939
17	Interest				
18	Taxes (attach schedule) (see instructions)	13,670	498		
19	Depreciation (attach schedule) and depletion				
20	Occupancy				
21	Travel, conferences, and meetings				
22	Printing and publications				
23	Other expenses (attach schedule)	188	28		160
24	Total operating and administrative expenses. Add lines 13 through 23	26,206	7,935	0	5,099
25	Contributions, gifts, grants paid	952,500			952,500
26	Total expenses and disbursements. Add lines 24 and 25	978,706	7,935	0	957,599
27	Subtract line 26 from line 12				
a	Excess of revenue over expenses and disbursements	263,791			
b	Net investment income (if negative, enter -0-)		872,197		
c	Adjusted net income (if negative, enter -0-)			0	

For Paperwork Reduction Act Notice, see instructions.

HTA

Form 990-PF (2016)

POSTMARK DATE JAN 18 2019

RECEIVED MAR 19 2019

Form 990-PF (2016)

SUGAR FAMILY FOUNDATION

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Part II Balance Sheets		Attached schedules and amounts in the description column should be for end-of-year amounts only (See instructions)		Beginning of year	End of year	
		(a) Book Value	(b) Book Value	(c) Fair Market Value		
Assets	1	Cash—non-interest-bearing	341	19,002	19,002	
	2	Savings and temporary cash investments	579,994	25,147	25,147	
	3	Accounts receivable ▶				
		Less allowance for doubtful accounts ▶				
	4	Pledges receivable ▶				
		Less allowance for doubtful accounts ▶				
	5	Grants receivable				
	6	Receivables due from officers, directors, trustees, and other disqualified persons (attach schedule) (see instructions)				
	7	Other notes and loans receivable (attach schedule) ▶				
		Less allowance for doubtful accounts ▶				
	8	Inventories for sale or use				
	9	Prepaid expenses and deferred charges				
	10a	Investments—U S and state government obligations (attach schedule)		44,988	44,999	
	b	Investments—corporate stock (attach schedule)	858,408			
	c	Investments—corporate bonds (attach schedule)				
	Liabilities	11	Investments—land, buildings, and equipment basis ▶			
		Less accumulated depreciation (attach schedule) ▶				
12		Investments—mortgage loans				
13		Investments—other (attach schedule)		1,355,133	1,436,177	
14		Land, buildings, and equipment basis ▶				
		Less accumulated depreciation (attach schedule) ▶				
15		Other assets (describe ▶)				
16		Total assets (to be completed by all filers—see the instructions. Also, see page 1, item I)	1,438,743	1,444,270	1,525,325	
17		Accounts payable and accrued expenses				
18		Grants payable				
Net Assets or Fund Balances	19	Deferred revenue				
	20	Loans from officers, directors, trustees, and other disqualified persons				
	21	Mortgages and other notes payable (attach schedule)				
	22	Other liabilities (describe ▶)				
	23	Total liabilities (add lines 17 through 22)	0	0		
		Foundations that follow SFAS 117, check here ▶ <input type="checkbox"/>				
	24	Unrestricted				
	25	Temporarily restricted				
	26	Permanently restricted				
		Foundations that do not follow SFAS 117, check here ▶ <input checked="" type="checkbox"/>				
27	Capital stock, trust principal, or current funds	1,438,743	1,444,270			
28	Paid-in or capital surplus, or land, bldg, and equipment fund					
29	Retained earnings, accumulated income, endowment, or other funds					
30	Total net assets or fund balances (see instructions)	1,438,743	1,444,270			
31	Total liabilities and net assets/fund balances (see instructions)	1,438,743	1,444,270			

Part III Analysis of Changes in Net Assets or Fund Balances

1	Total net assets or fund balances at beginning of year—Part II, column (a), line 30 (must agree with end-of-year figure reported on prior year's return)	1	1,438,743
2	Enter amount from Part I, line 27a	2	263,791
3	Other increases not included in line 2 (itemize) ▶ CHECKS PAID IN 2016, CLEARED IN 2017	3	10,000
4	Add lines 1, 2, and 3	4	1,712,534
5	Decreases not included in line 2 (itemize) ▶ See Attached Statement	5	268,264
6	Total net assets or fund balances at end of year (line 4 minus line 5)—Part II, column (b), line 30	6	1,444,270

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Form 990-PF (2016)

SUGAR FAMILY FOUNDATION

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Part IV Capital Gains and Losses for Tax on Investment Income

(a) List and describe the kind(s) of property sold (e.g., real estate, 2-story brick warehouse, or common stock, 200 shs. MLC Co.)		(b) How acquired P—Purchase D—Donation	(c) Date acquired (mo., day, yr.)	(d) Date sold (mo., day, yr.)
1a See Attached Statement				
b				
c				
d				
e				
(e) Gross sales price	(f) Depreciation allowed (or allowable)	(g) Cost or other basis plus expense of sale	(h) Gain or (loss) (e) plus (f) minus (g)	
a				
b				
c				
d				
e				
Complete only for assets showing gain in column (h) and owned by the foundation on 12/31/69				(i) Gains (Col. (h) gain minus col. (k), but not less than -0-) or Losses (from col. (h))
(i) F M V as of 12/31/69	(j) Adjusted basis as of 12/31/69	(k) Excess of col. (i) over col. (j), if any		
a				
b				
c				
d				
e				
2 Capital gain net income or (net capital loss) { If gain, also enter in Part I, line 7 If (loss), enter -0- in Part I, line 7 }		2	849,354	
3 Net short-term capital gain or (loss) as defined in sections 1222(5) and (6) If gain, also enter in Part I, line 8, column (c) (see instructions). If (loss), enter -0- in Part I, line 8 }		3	0	

Part V Qualification Under Section 4940(e) for Reduced Tax on Net Investment Income

(For optional use by domestic private foundations subject to the section 4940(a) tax on net investment income.)

If section 4940(d)(2) applies, leave this part blank.

Was the foundation liable for the section 4942 tax on the distributable amount of any year in the base period? ☐ Yes ☒ No
If "Yes," the foundation does not qualify under section 4940(e). Do not complete this part.

1 Enter the appropriate amount in each column for each year, see the instructions before making any entries			
(a) Base period years Calendar year (or tax year beginning in)	(b) Adjusted qualifying distributions	(c) Net value of noncharitable-use assets	(d) Distribution ratio (col. (b) divided by col. (c))
2015	286,412	326,884	0.876188
2014			0.000000
2013			0.000000
2012			0.000000
2011			0.000000
2 Total of line 1, column (d)		2	0.876188
3 Average distribution ratio for the 5-year base period—divide the total on line 2 by 5, or by the number of years the foundation has been in existence if less than 5 years		3	0.876188
4 Enter the net value of noncharitable-use assets for 2016 from Part X, line 5		4	1,482,314
5 Multiply line 4 by line 3		5	1,298,786
6 Enter 1% of net investment income (1% of Part I, line 27b)		6	8,722
7 Add lines 5 and 6		7	1,307,508
8 Enter qualifying distributions from Part XII, line 4 If line 8 is equal to or greater than line 7, check the box in Part VI, line 1b, and complete that part using a 1% tax rate. See the Part VI instructions.		8	957,599

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SUGAR FAMILY FOUNDATION

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Part VI Excise Tax Based on Investment Income (Section 4940(a), 4940(b), 4940(e), or 4948—see instructions)

1a	Exempt operating foundations described in section 4940(d)(2), check here <input type="checkbox"/> and enter "N/A" on line 1 Date of ruling or determination letter _____ (attach copy of letter if necessary—see instructions)			
b	Domestic foundations that meet the section 4940(e) requirements in Part V, check here <input type="checkbox"/> and enter 1% of Part I, line 27b	1	17,444	
c	All other domestic foundations enter 2% of line 27b. Exempt foreign organizations enter 4% of Part I, line 12, col (b)			
2	Tax under section 511 (domestic section 4947(a)(1) trusts and taxable foundations only. Others enter -0-)	2	0	
3	Add lines 1 and 2	3	17,444	
4	Subtitle A (income) tax (domestic section 4947(a)(1) trusts and taxable foundations only. Others enter -0-)	4		
5	Tax based on investment income. Subtract line 4 from line 3. If zero or less, enter -0-	5	17,444	
6	Credits/Payments			
a	2016 estimated tax payments and 2015 overpayment credited to 2016	6a	6,586	
b	Exempt foreign organizations—tax withheld at source	6b		
c	Tax paid with application for extension of time to file (Form 8868)	6c	11,058	
d	Backup withholding erroneously withheld	6d		
7	Total credits and payments. Add lines 6a through 6d	7	17,644	
8	Enter any penalty for underpayment of estimated tax. Check here <input type="checkbox"/> if Form 2220 is attached	8		
9	Tax due. If the total of lines 5 and 8 is more than line 7, enter amount owed	9	0	
10	Overpayment. If line 7 is more than the total of lines 5 and 8, enter the amount overpaid	10	200	
11	Enter the amount of line 10 to be Credited to 2017 estimated tax <input type="checkbox"/> Refunded <input type="checkbox"/>	11	200	

Part VII-A Statements Regarding Activities

	Yes	No
1a During the tax year, did the foundation attempt to influence any national, state, or local legislation or did it participate or intervene in any political campaign?		X
b Did it spend more than \$100 during the year (either directly or indirectly) for political purposes (see Instructions for the definition)? <i>If the answer is "Yes" to 1a or 1b, attach a detailed description of the activities and copies of any materials published or distributed by the foundation in connection with the activities</i>		X
c Did the foundation file Form 1120-POL for this year?		X
d Enter the amount (if any) of tax on political expenditures (section 4955) imposed during the year: (1) On the foundation <input type="checkbox"/> \$ _____ (2) On foundation managers <input type="checkbox"/> \$ _____		
e Enter the reimbursement (if any) paid by the foundation during the year for political expenditure tax imposed on foundation managers <input type="checkbox"/> \$ _____		
2 Has the foundation engaged in any activities that have not previously been reported to the IRS? <i>If "Yes," attach a detailed description of the activities</i>		X
3 Has the foundation made any changes, not previously reported to the IRS, in its governing instrument, articles of incorporation, or bylaws, or other similar instruments? <i>If "Yes," attach a conformed copy of the changes</i>		X
4a Did the foundation have unrelated business gross income of \$1,000 or more during the year?		X
b If "Yes," has it filed a tax return on Form 990-T for this year?	N/A	
5 Was there a liquidation, termination, dissolution, or substantial contraction during the year? <i>If "Yes," attach the statement required by General Instruction T</i>		X
6 Are the requirements of section 508(e) (relating to sections 4941 through 4945) satisfied either: • By language in the governing instrument, or • By state legislation that effectively amends the governing instrument so that no mandatory directions that conflict with the state law remain in the governing instrument?	X	
7 Did the foundation have at least \$5,000 in assets at any time during the year? <i>If "Yes," complete Part II, col (c), and Part XV</i>	X	
8a Enter the states to which the foundation reports or with which it is registered (see instructions) <input type="checkbox"/> CA		
b If the answer is "Yes" to line 7, has the foundation furnished a copy of Form 990-PF to the Attorney General (or designate) of each state as required by General Instruction G? <i>If "No," attach explanation</i>	X	
9 Is the foundation claiming status as a private operating foundation within the meaning of section 4942(j)(3) or 4942(j)(5) for calendar year 2016 or the taxable year beginning in 2016 (see instructions for Part XIV)? <i>If "Yes," complete Part XIV</i>		X
10 Did any persons become substantial contributors during the tax year? <i>If "Yes," attach a schedule listing their names and addresses</i>		X

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Form 990-PF (2016)

SUGAR FAMILY FOUNDATION

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Part VII-A Statements Regarding Activities (continued)

11	At any time during the year, did the foundation, directly or indirectly, own a controlled entity within the meaning of section 512(b)(13)? If "Yes," attach schedule (see instructions)	11	Yes	No
12	Did the foundation make a distribution to a donor advised fund over which the foundation or a disqualified person had advisory privileges? If "Yes," attach statement (see instructions)	12		X
13	Did the foundation comply with the public inspection requirements for its annual returns and exemption application? Website address ▶ N/A	13	X	
14	The books are in care of ▶ UST-MLT, A DIVISION OF BANK OF AMERICA, N.A. Telephone no ▶ 609-274-6834 Located at ▶ 1300 MERRILL LYNCH DRIVE PENNINGTON NJ ZIP+4 ▶ 08534-1501			
15	Section 4947(a)(1) nonexempt charitable trusts filing Form 990-PF in lieu of Form 1041—Check here and enter the amount of tax-exempt interest received or accrued during the year ▶ 15			
16	At any time during calendar year 2016, did the foundation have an interest in or a signature or other authority over a bank, securities, or other financial account in a foreign country? See the instructions for exceptions and filing requirements for FinCEN Form 114. If "Yes," enter the name of the foreign country ▶	16	Yes	No
				X

Part VII-B Statements Regarding Activities for Which Form 4720 May Be Required

File Form 4720 if any item is checked in the "Yes" column, unless an exception applies.

1a	During the year did the foundation (either directly or indirectly)		Yes	No
(1)	Engage in the sale or exchange, or leasing of property with a disqualified person?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
(2)	Borrow money from, lend money to, or otherwise extend credit to (or accept it from) a disqualified person?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
(3)	Furnish goods, services, or facilities to (or accept them from) a disqualified person?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
(4)	Pay compensation to, or pay or reimburse the expenses of, a disqualified person?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
(5)	Transfer any income or assets to a disqualified person (or make any of either available for the benefit or use of a disqualified person)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
(6)	Agree to pay money or property to a government official? (Exception. Check "No" if the foundation agreed to make a grant to or to employ the official for a period after termination of government service, if terminating within 90 days.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
b	If any answer is "Yes" to 1a(1)–(6), did any of the acts fail to qualify under the exceptions described in Regulations section 53.4941(d)-3 or in a current notice regarding disaster assistance (see instructions)? Organizations relying on a current notice regarding disaster assistance check here ▶	1b	N/A	
c	Did the foundation engage in a prior year in any of the acts described in 1a, other than excepted acts, that were not corrected before the first day of the tax year beginning in 2016?	1c		X
2	Taxes on failure to distribute income (section 4942) (does not apply for years the foundation was a private operating foundation defined in section 4942(j)(3) or 4942(j)(5))			
a	At the end of tax year 2016, did the foundation have any undistributed income (lines 6d and 6e, Part XIII) for tax year(s) beginning before 2016? If "Yes," list the years ▶ 20____, 20____, 20____, 20____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
b	Are there any years listed in 2a for which the foundation is, not applying the provisions of section 4942(a)(2) (relating to incorrect valuation of assets) to the year's undistributed income? (If applying section 4942(a)(2) to all years listed, answer "No" and attach statement—see instructions.)	2b	N/A	
c	If the provisions of section 4942(a)(2) are being applied to any of the years listed in 2a, list the years here ▶ 20____, 20____, 20____, 20____			
3a	Did the foundation hold more than a 2% direct or indirect interest in any business enterprise at any time during the year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
b	If "Yes," did it have excess business holdings in 2016 as a result of (1) any purchase by the foundation or disqualified persons after May 26, 1969, (2) the lapse of the 5-year period (or longer period approved by the Commissioner under section 4943(c)(7)) to dispose of holdings acquired by gift or bequest, or (3) the lapse of the 10-, 15-, or 20-year first phase holding period? (Use Schedule C, Form 4720, to determine if the foundation had excess business holdings in 2016.)	3b	N/A	
4a	Did the foundation invest during the year any amount in a manner that would jeopardize its charitable purposes?	4a		X
b	Did the foundation make any investment in a prior year (but after December 31, 1969) that could jeopardize its charitable purpose that had not been removed from jeopardy before the first day of the tax year beginning in 2016?	4b		X

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Part VII-B Statements Regarding Activities for Which Form 4720 May Be Required (continued)

- 5a** During the year did the foundation pay or incur any amount to
- (1) Carry on propaganda, or otherwise attempt to influence legislation (section 4945(e))? ☐ Yes ☒ No
- (2) Influence the outcome of any specific public election (see section 4955), or to carry on, directly or indirectly, any voter registration drive? ☐ Yes ☒ No
- (3) Provide a grant to an individual for travel, study, or other similar purposes? ☐ Yes ☒ No
- (4) Provide a grant to an organization other than a charitable, etc., organization described in section 4945(d)(4)(A)? (see instructions) ☐ Yes ☒ No
- (5) Provide for any purpose other than religious, charitable, scientific, literary, or educational purposes, or for the prevention of cruelty to children or animals? ☐ Yes ☒ No
- b** If any answer is "Yes" to 5a(1)–(5), did **any** of the transactions fail to qualify under the exceptions described in Regulations section 53.4945 or in a current notice regarding disaster assistance (see instructions)? ☐ Yes ☒ No
- Organizations relying on a current notice regarding disaster assistance check here ☐
- c** If the answer is "Yes" to question 5a(4), does the foundation claim exemption from the tax because it maintained expenditure responsibility for the grant? ☐ Yes ☒ No
- If "Yes," attach the statement required by Regulations section 53.4945–5(d) N/A
- 6a** Did the foundation, during the year, receive any funds, directly or indirectly, to pay premiums on a personal benefit contract? ☐ Yes ☒ No
- b** Did the foundation, during the year, pay premiums, directly or indirectly, on a personal benefit contract? ☐ Yes ☒ No
- If "Yes" to 6b, file Form 8870
- 7a** At any time during the tax year, was the foundation a party to a prohibited tax shelter transaction? ☐ Yes ☒ No
- b** If "Yes," did the foundation receive any proceeds or have any net income attributable to the transaction? ☐ Yes ☒ No

5b	N/A	
6b		X
7b	N/A	

Part VIII Information About Officers, Directors, Trustees, Foundation Managers, Highly Paid Employees, and Contractors

1 List all officers, directors, trustees, foundation managers and their compensation (see instructions).

(a) Name and address	(b) Title, and average hours per week devoted to position	(c) Compensation (If not paid, enter -0-)	(d) Contributions to employee benefit plans and deferred compensation	(e) Expense account, other allowances
MERRILL LYNCH, PIERCE, FENNER & SMITH INC. 2049 CENTURY EAST, 12TH FL LOS ANGELES, CA	TRUSTEE 1 00	0		

2 Compensation of five highest-paid employees (other than those included on line 1—see instructions). If none, enter "NONE."

(a) Name and address of each employee paid more than \$50,000	(b) Title, and average hours per week devoted to position	(c) Compensation	(d) Contributions to employee benefit plans and deferred compensation	(e) Expense account, other allowances
NONE				

Total number of other employees paid over \$50,000

0

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Part VIII Information About Officers, Directors, Trustees, Foundation Managers, Highly Paid Employees, and Contractors *(continued)*

3 Five highest-paid independent contractors for professional services (see instructions). If none, enter "NONE."

(a) Name and address of each person paid more than \$50,000	(b) Type of service	(c) Compensation
NONE		

Total number of others receiving over \$50,000 for professional services

Part IX-A Summary of Direct Charitable Activities

List the foundation's four largest direct charitable activities during the tax year. Include relevant statistical information such as the number of organizations and other beneficiaries served, conferences convened, research papers produced, etc.	Expenses
1 NONE	
2	
3	
4	

Part IX-B Summary of Program-Related Investments (see instructions)

Describe the two largest program-related investments made by the foundation during the tax year on lines 1 and 2	Amount
1 NONE	
2	
All other program-related investments. See instructions.	
3 NONE	
Total. Add lines 1 through 3	0

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Part X Minimum Investment Return (All domestic foundations must complete this part. Foreign foundations, see instructions.)

1	Fair market value of assets not used (or held for use) directly in carrying out charitable, etc., purposes		
a	Average monthly fair market value of securities	1a	1,432,234
b	Average of monthly cash balances	1b	72,653
c	Fair market value of all other assets (see instructions)	1c	
d	Total (add lines 1a, b, and c)	1d	1,504,887
e	Reduction claimed for blockage or other factors reported on lines 1a and 1c (attach detailed explanation)	1e	
2	Acquisition indebtedness applicable to line 1 assets	2	
3	Subtract line 2 from line 1d	3	1,504,887
4	Cash deemed held for charitable activities. Enter 1½ % of line 3 (for greater amount, see instructions)	4	22,573
5	Net value of noncharitable-use assets. Subtract line 4 from line 3. Enter here and on Part V, line 4	5	1,482,314
6	Minimum investment return. Enter 5% of line 5	6	74,116

Part XI Distributable Amount (see instructions) (Section 4942(j)(3) and (j)(5) private operating foundations and certain foreign organizations check here ☐ and do not complete this part.)

1	Minimum investment return from Part X, line 6	1	74,116
2a	Tax on investment income for 2016 from Part VI, line 5	2a	17,444
2b	Income tax for 2016 (This does not include the tax from Part VI.)	2b	
c	Add lines 2a and 2b	2c	17,444
3	Distributable amount before adjustments. Subtract line 2c from line 1	3	56,672
4	Recoveries of amounts treated as qualifying distributions	4	
5	Add lines 3 and 4	5	56,672
6	Deduction from distributable amount (see instructions)	6	
7	Distributable amount as adjusted. Subtract line 6 from line 5. Enter here and on Part XIII, line 1	7	56,672

Part XII Qualifying Distributions (see instructions)

1	Amounts paid (including administrative expenses) to accomplish charitable, etc., purposes		
a	Expenses, contributions, gifts, etc.—total from Part I, column (d), line 26	1a	957,599
b	Program-related investments—total from Part IX-B	1b	
2	Amounts paid to acquire assets used (or held for use) directly in carrying out charitable, etc., purposes	2	
3	Amounts set aside for specific charitable projects that satisfy the		
a	Suitability test (prior IRS approval required)	3a	
b	Cash distribution test (attach the required schedule)	3b	
4	Qualifying distributions. Add lines 1a through 3b. Enter here and on Part V, line 8, and Part XIII, line 4	4	957,599
5	Foundations that qualify under section 4940(e) for the reduced rate of tax on net investment income. Enter 1% of Part I, line 27b (see instructions)	5	
6	Adjusted qualifying distributions. Subtract line 5 from line 4	6	957,599

Note. The amount on line 6 will be used in Part V, column (b), in subsequent years when calculating whether the foundation qualifies for the section 4940(e) reduction of tax in those years.

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Part XIII Undistributed Income (see instructions)

	(a) Corpus	(b) Years prior to 2015	(c) 2015	(d) 2016
1 Distributable amount for 2016 from Part XI, line 7				56,672
2 Undistributed income, if any, as of the end of 2016				
a Enter amount for 2015 only			0	
b Total for prior years 20____, 20____, 20____				
3 Excess distributions carryover, if any, to 2016				
a From 2011				
b From 2012				
c From 2013				
d From 2014				
e From 2015	276,654			
f Total of lines 3a through e	276,654			
4 Qualifying distributions for 2016 from Part XII, line 4 ▶ \$ 957,599				
a Applied to 2015, but not more than line 2a				
b Applied to undistributed income of prior years (Election required—see instructions)				
c Treated as distributions out of corpus (Election required—see instructions)				
d Applied to 2016 distributable amount				56,672
e Remaining amount distributed out of corpus	900,927			
5 Excess distributions carryover applied to 2016 (If an amount appears in column (d), the same amount must be shown in column (a))				
6 Enter the net total of each column as indicated below:				
a Corpus Add lines 3f, 4c, and 4e Subtract line 5	1,177,581			
b Prior years' undistributed income Subtract line 4b from line 2b		0		
c Enter the amount of prior years' undistributed income for which a notice of deficiency has been issued, or on which the section 4942(a) tax has been previously assessed				
d Subtract line 6c from line 6b Taxable amount—see instructions				
e Undistributed income for 2015 Subtract line 4a from line 2a Taxable amount—see instructions			0	
f Undistributed income for 2016 Subtract lines 4d and 5 from line 1 This amount must be distributed in 2017				0
7 Amounts treated as distributions out of corpus to satisfy requirements imposed by section 170(b)(1)(F) or 4942(g)(3) (Election may be required—see instructions)				
8 Excess distributions carryover from 2011 not applied on line 5 or line 7 (see instructions)				
9 Excess distributions carryover to 2017. Subtract lines 7 and 8 from line 6a	1,177,581			
10 Analysis of line 9				
a Excess from 2012				
b Excess from 2013				
c Excess from 2014				
d Excess from 2015	276,654			
e Excess from 2016	900,927			

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Part XIV Private Operating Foundations (see instructions and Part VII-A, question 9)

N/A

1a If the foundation has received a ruling or determination letter that it is a private operating foundation, and the ruling is effective for 2016, enter the date of the ruling

b Check box to indicate whether the foundation is a private operating foundation described in section

☐ 4942(j)(3) or ☐ 4942(j)(5)

2a Enter the lesser of the adjusted net income from Part I or the minimum investment return from Part X for each year listed

Tax year	Prior 3 years			(e) Total
(a) 2016	(b) 2015	(c) 2014	(d) 2013	
				0

b 85% of line 2a

				0
--	--	--	--	---

c Qualifying distributions from Part XII, line 4 for each year listed

				0
--	--	--	--	---

d Amounts included in line 2c not used directly for active conduct of exempt activities

				0
--	--	--	--	---

e Qualifying distributions made directly for active conduct of exempt activities
Subtract line 2d from line 2c

				0
--	--	--	--	---

3 Complete 3a, b, or c for the alternative test relied upon

a "Assets" alternative test—enter

(1) Value of all assets

				0
--	--	--	--	---

(2) Value of assets qualifying under section 4942(j)(3)(B)(i)

				0
--	--	--	--	---

b "Endowment" alternative test—enter 2/3 of minimum investment return shown in Part X, line 6 for each year listed

				0
--	--	--	--	---

c "Support" alternative test—enter

(1) Total support other than gross investment income (interest, dividends, rents, payments on securities loans (section 512(a)(5)), or royalties)

				0
--	--	--	--	---

(2) Support from general public and 5 or more exempt organizations as provided in section 4942(j)(3)(B)(iii)

				0
--	--	--	--	---

(3) Largest amount of support from an exempt organization

				0
--	--	--	--	---

(4) Gross investment income

				0
--	--	--	--	---

Part XV Supplementary Information (Complete this part only if the foundation had \$5,000 or more in assets at any time during the year—see instructions.)

1 Information Regarding Foundation Managers:

a List any managers of the foundation who have contributed more than 2% of the total contributions received by the foundation before the close of any tax year (but only if they have contributed more than \$5,000) (See section 507(d)(2))

NONE

b List any managers of the foundation who own 10% or more of the stock of a corporation (or an equally large portion of the ownership of a partnership or other entity) of which the foundation has a 10% or greater interest

NONE

2 Information Regarding Contribution, Grant, Gift, Loan, Scholarship, etc., Programs:

Check here ☒ if the foundation only makes contributions to preselected charitable organizations and does not accept unsolicited requests for funds. If the foundation makes gifts, grants, etc. (see instructions) to individuals or organizations under other conditions, complete items 2a, b, c, and d

a The name, address, and telephone number or e-mail address of the person to whom applications should be addressed

b The form in which applications should be submitted and information and materials they should include

c Any submission deadlines

d Any restrictions or limitations on awards, such as by geographical areas, charitable fields, kinds of institutions, or other factors

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Part XV Supplementary Information (continued)

3 Grants and Contributions Paid During the Year or Approved for Future Payment

Recipient Name and address (home or business)	If recipient is an individual, show any relationship to any foundation manager or substantial contributor	Foundation status of recipient	Purpose of grant or contribution	Amount
a Paid during the year See Attached Statement				
Total			▶ 3a	952,500
b Approved for future payment NONE				
Total			▶ 3b	0

SUGAR FAMILY FOUNDATION

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Continuation of Part XV, Line 3a (990-PF) - Grants and Contributions Paid During the Year

Recipient(s) paid during the year

Name

Achievement Rewards for College Scientists Foundation

Street

24520 Hawthorne Blvd, Suite 113

City

Los Angeles

State

CA

Zip Code

90505

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

11,000

Name

Alliance College Ready Public Schools

Street

601 South Figueroa St, 4th Floor

City

Los Angeles

State

CA

Zip Code

90017

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

35,000

Name

Friends of Westwood Library A Branch of LA Public Library

Street

1246 Glendon Ave

City

Los Angeles

State

CA

Zip Code

90024-4914

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

500

Name

The UCLA Foundation

Street

10920 Wilshire Blvd, Ste 900

City

Los Angeles

State

CA

Zip Code

90024-6506

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

670,000

Name

University of Southern California

Street

University Park

City

Los Angeles

State

CA

Zip Code

90089-0001

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

50,000

Name

Los Angeles Philharmonic Association

Street

151 S Grand Ave

City

Los Angeles

State

CA

Zip Code

90012-3034

Foreign Country**Relationship**

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

170,000

SUGAR FAMILY FOUNDATION

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Continuation of Part XV, Line 3a (990-PF) - Grants and Contributions Paid During the Year

Recipient(s) paid during the year

Name

Grameen America, Inc

Street

150 West 30th St, 8th Floor

City

New York

State

NY

Zip Code

10001-4151

Foreign Country

Relationship

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

5,000

Name

National Academy of Engineering Fund

Street

2101 Constitution Ave NW

City

Washington

State

DC

Zip Code

20418-0007

Foreign Country

Relationship

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

1,000

Name

Boys and Girls Clubs of America

Street

1275 Peachtree St NE

City

Atlanta

State

GA

Zip Code

30309-3580

Foreign Country

Relationship

NONE

Foundation Status

PC

Purpose of grant/contribution

GENERAL OPERATING

Amount

10,000

Name

Street

City

State

Zip Code

Foreign Country

Relationship

Foundation Status

Purpose of grant/contribution

Amount

Name

Street

City

State

Zip Code

Foreign Country

Relationship

Foundation Status

Purpose of grant/contribution

Amount

Name

Street

City

State

Zip Code

Foreign Country

Relationship

Foundation Status

Purpose of grant/contribution

Amount

Enter gross amounts unless otherwise indicated

(See worksheet in line 13 instructions to verify calculations)

Line No.

Not Applicable

Schedule B
(Form 990, 990-EZ,
or 990-PF)

Department of the Treasury
Internal Revenue Service

Schedule of Contributors

▶ Attach to Form 990, Form 990-EZ, or Form 990-PF.

▶ Information about Schedule B (Form 990, 990-EZ, or 990-PF) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2016

Name of the organization

SUGAR FAMILY FOUNDATION

Employer identification number

47-3980241

Organization type (check one)

Filers of:

Section:

Form 990 or 990-EZ

☐ 501(c)() (enter number) organization

☐ 4947(a)(1) nonexempt charitable trust **not** treated as a private foundation

☐ 527 political organization

Form 990-PF

☒ 501(c)(3) exempt private foundation

☐ 4947(a)(1) nonexempt charitable trust treated as a private foundation

☐ 501(c)(3) taxable private foundation

Check if your organization is covered by the **General Rule** or a **Special Rule**.

Note: Only a section 501(c)(7), (8), or (10) organization can check boxes for both the General Rule and a Special Rule. See instructions.

General Rule

- ☒ For an organization filing Form 990, 990-EZ, or 990-PF that received, during the year, contributions totaling \$5,000 or more (in money or property) from any one contributor. Complete Parts I and II. See instructions for determining a contributor's total contributions.

Special Rules

- ☐ For an organization described in section 501(c)(3) filing Form 990 or 990-EZ that met the 33 1/3 % support test of the regulations under sections 509(a)(1) and 170(b)(1)(A)(vi), that checked Schedule A (Form 990 or 990-EZ), Part II, line 13, 16a, or 16b, and that received from any one contributor, during the year, total contributions of the greater of (1) \$5,000 or (2) 2% of the amount on (i) Form 990, Part VIII, line 1h, or (ii) Form 990-EZ, line 1. Complete Parts I and II.
- ☐ For an organization described in section 501(c)(7), (8), or (10) filing Form 990 or 990-EZ that received from any one contributor, during the year, total contributions of more than \$1,000 *exclusively* for religious, charitable, scientific, literary, or educational purposes, or for the prevention of cruelty to children or animals. Complete Parts I, II, and III.
- ☐ For an organization described in section 501(c)(7), (8), or (10) filing Form 990 or 990-EZ that received from any one contributor, during the year, contributions *exclusively* for religious, charitable, etc., purposes, but no such contributions totaled more than \$1,000. If this box is checked, enter here the total contributions that were received during the year for an *exclusively* religious, charitable, etc., purpose. Don't complete any of the parts unless the **General Rule** applies to this organization because it received *nonexclusively* religious, charitable, etc., contributions totaling \$5,000 or more during the year. ▶ \$

Caution: An organization that isn't covered by the General Rule and/or the Special Rules doesn't file Schedule B (Form 990, 990-EZ, or 990-PF), but it **must** answer "No" on Part IV, line 2, of its Form 990, or check the box on line H of its Form 990-EZ or on its Form 990-PF, Part I, line 2, to certify that it doesn't meet the filing requirements of Schedule B (Form 990, 990-EZ, or 990-PF).

(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
1	THE SUGAR FAMILY TRUST 228 COPA DE ORO RD LOS ANGELES CA 90077-3804 Foreign State or Province Foreign Country	\$ 1,160,074	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input checked="" type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)
(a) No.	(b) Name, address, and ZIP + 4	(c) Total contributions	(d) Type of contribution
		\$	Person <input type="checkbox"/> Payroll <input type="checkbox"/> Noncash <input type="checkbox"/> (Complete Part II for noncash contributions)

Schedule B (Form 990, 990-EZ, or 990-PF) (2016)

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Name of organization SUGAR FAMILY FOUNDATION	Employer identification number 47-3980241
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Part II **Noncash Property** (See instructions) Use duplicate copies of Part II if additional space is needed

(a) No. from Part I	(b) Description of noncash property given	(c) FMV (or estimate) (See instructions)	(d) Date received
1	4,880 UNITS OF NORTHROP GRUMMAN CORP ----- ----- -----	\$ 1,160,074	12/8/2016
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----
	----- ----- -----	\$ -----	-----

Schedule B (Form 990, 990-EZ, or 990-PF) (2016)

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Name of organization SUGAR FAMILY FOUNDATION	Employer identification number 47-3980241
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Part III Exclusively religious, charitable, etc., contributions to organizations described in section 501(c)(7), (8), or (10) that total more than \$1,000 for the year from any one contributor. Complete columns (a) through (e) and the following line entry. For organizations completing Part III, enter the total of exclusively religious, charitable, etc., contributions of \$1,000 or less for the year. (Enter this information once. See instructions.) ▶ \$ 0

Use duplicate copies of Part III if additional space is needed.

(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----
	(e) Transfer of gift		
	Transferee's name, address, and ZIP + 4		Relationship of transferor to transferee
	----- ----- -----		----- ----- -----
	For	Prov	Country
(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----
	(e) Transfer of gift		
	Transferee's name, address, and ZIP + 4		Relationship of transferor to transferee
	----- ----- -----		----- ----- -----
	For	Prov	Country
(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----
	(e) Transfer of gift		
	Transferee's name, address, and ZIP + 4		Relationship of transferor to transferee
	----- ----- -----		----- ----- -----
	For	Prov	Country
(a) No. from Part I	(b) Purpose of gift	(c) Use of gift	(d) Description of how gift is held
-----	----- ----- -----	----- ----- -----	----- ----- -----
	(e) Transfer of gift		
	Transferee's name, address, and ZIP + 4		Relationship of transferor to transferee
	----- ----- -----		----- ----- -----
	For	Prov	Country

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Long Term CG Distributions Short Term CG Distributions	Description	CUSIP #	Check 'X' to include in Part IV	Purchaser	Check 'X' if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sold	Totals			Cost or Other Basis, Expenses, Depreciation and Adjustments	Net Gain or Loss
									Capital Gains/Losses				
									Other sales	2,445,739	0	2,395,827	49,912
1	PUTNAM TAX FREE HIGH	746872878	X				8/23/2016	8/23/2016	13	13			0
2	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	8/23/2016	13	13			0
3	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	8/23/2016	39	39			0
4	PUTNAM TAX FREE HIGH	746872878	X				12/11/2015	8/23/2016	1,191	1,191			0
5	PUTNAM TAX FREE HIGH	746872878	X				8/31/2016	9/28/2016	1	1			0
6	PUTNAM TAX FREE HIGH	746872878	X				8/31/2016	9/28/2016	13	13			0
7	PUTNAM TAX FREE HIGH	746872878	X				8/31/2016	9/28/2016	51	52			1
8	PUTNAM TAX FREE HIGH	746872878	X				12/11/2015	9/28/2016	1,029	995			34
9	PUTNAM TAX FREE HIGH	746872878	X				11/30/2016	12/8/2016	12	12			0
10	PUTNAM TAX FREE HIGH	746872878	X				11/30/2016	12/8/2016	2	2			0
11	PUTNAM TAX FREE HIGH	746872878	X				11/30/2016	12/8/2016	61	61			0
12	PUTNAM TAX FREE HIGH	746872878	X				11/9/2016	12/8/2016	12	13			0
13	PUTNAM TAX FREE HIGH	746872878	X				10/31/2016	12/8/2016	61	64			0
14	PUTNAM TAX FREE HIGH	746872878	X				9/30/2016	12/8/2016	12	13			0
15	PUTNAM TAX FREE HIGH	746872878	X				9/2/2016	12/8/2016	12	13			0
16	PUTNAM TAX FREE HIGH	746872878	X				8/4/2016	12/8/2016	49	53			0
17	PUTNAM TAX FREE HIGH	746872878	X				7/29/2016	12/8/2016	1,493	1,591			0
18	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	12/8/2016	12	13			0
19	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	12/8/2016	37	40			0
20	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	12/8/2016	61	64			0
21	PUTNAM TAX FREE HIGH	746872878	X				3/31/2016	12/8/2016	12	13			0
22	PUTNAM TAX FREE HIGH	746872878	X				3/31/2016	12/8/2016	73	76			0
23	PUTNAM TAX FREE HIGH	746872878	X				2/29/2016	12/8/2016	12	13			0
24	PUTNAM TAX FREE HIGH	746872878	X				1/29/2016	12/8/2016	61	63			0
25	PUTNAM TAX FREE HIGH	746872878	X				1/12/2016	12/8/2016	12	13			0
26	PUTNAM TAX FREE HIGH	746872878	X				1/12/2016	12/8/2016	3,782	3,909			0
27	PUTNAM TAX FREE HIGH	746872878	X				1/4/2016	12/8/2016	24	25			0
28	PUTNAM TAX FREE HIGH	746872878	X				12/31/2015	12/8/2016	24	25			0
29	PUTNAM TAX FREE HIGH	746872878	X				12/31/2015	12/8/2016	12	13			0
30	PUTNAM TAX FREE HIGH	746872878	X				12/11/2015	12/8/2016	14,787	15,209			0
31	PUTNAM TAX FREE HIGH	746872878	X				12/11/2015	12/8/2016	12	13			0
32	PUTNAM TAX FREE HIGH	746872878	X				8/4/2016	8/23/2016	4	4			0
33	PUTNAM TAX FREE HIGH	746872878	X				7/29/2016	8/23/2016	288	286			0
34	PUTNAM TAX FREE HIGH	746872878	X				6/30/2016	8/23/2016	256	251			0
35	RIVERNORTH DOUBLE LINE	76891N202	X				1/12/2016	8/23/2016	2,885	2,781			0
36	RIVERNORTH DOUBLE LINE	76891N202	X				12/14/2015	10/7/2016	263	255			0
37	RIVERNORTH DOUBLE LINE	76891N202	X				12/11/2015	10/7/2016	35,740	35,154			0
38	RIVERNORTH DOUBLE LINE	76891N202	X				3/31/2016	10/7/2016	88	87			0
39	METROPOLITAN WEST TOTA	59290S509	X				3/31/2016	10/7/2016	11	11			0
40	METROPOLITAN WEST TOTA	59290S509	X				2/29/2016	10/7/2016	66	65			0
41	METROPOLITAN WEST TOTA	59290S509	X				1/29/2016	10/7/2016	66	64			0
42	METROPOLITAN WEST TOTA	59290S509	X				10/31/2016	11/9/2016	8	8			0
43	METROPOLITAN WEST TOTA	59290S509	X				7/24/2016	11/9/2016	22	23			0
44	METROPOLITAN WEST TOTA	59290S509	X				11/30/2016	12/21/2016	0	0			0
45	METROPOLITAN WEST TOTA	59290S509	X				3/31/2016	6/15/2016	6	6			0
46	METROPOLITAN WEST TOTA	59290S509	X				12/28/2015	6/15/2016	22	21			0
47	METROPOLITAN WEST TOTA	59290S509	X				10/31/2016	11/9/2016	4	4			0
48	NEUBERGER BERMAN STRA	84128K751	X				10/31/2016	11/9/2016	9	10			1
49	NEUBERGER BERMAN STRA	84128K751	X				10/31/2016	11/9/2016	35	39			4
50	PIMCO SHORT TERM FD	72201M594	X				10/31/2016	11/9/2016	280	274			0
51	PIMCO SHORT TERM FD	72201M594	X				12/20/2016	12/22/2016	0	0			0
52	PIMCO SHORT TERM FD	72201M594	X				12/20/2016	12/22/2016	27	32			5
53	PIMCO SHORT TERM FD	72201M594	X				10/7/2016	12/22/2016	9	11			2
54	PIMCO SHORT TERM FD	72201M594	X				10/7/2016	12/22/2016	4,328	4,309			0
55	PIMCO SHORT TERM FD	72201M594	X				11/30/2016	12/22/2016	6	6			0
56	PIMCO SHORT TERM FD	72201M594	X				6/30/2016	8/23/2016	36	39			3
57	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	8/23/2016	1,590	1,527			3
58	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	8/23/2016	9	9			0
59	PIMCO SHORT TERM FD	72201M594	X				7/29/2016	8/23/2016	1	1			0
60	PIMCO SHORT TERM FD	72201M594	X				6/30/2016	8/23/2016	70	74			4
61	PIMCO SHORT TERM FD	72201M594	X				6/30/2016	8/23/2016	10	10			0
62	PIMCO SHORT TERM FD	72201M594	X				8/31/2016	9/23/2016	2	2			0
63	PIMCO SHORT TERM FD	72201M594	X				8/31/2016	9/23/2016	72	74			2
64	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	9/23/2016	11	10			0
65	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	9/23/2016	159	154			0
66	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	9/23/2016	42	41			0
67	PIMCO SHORT TERM FD	72201M594	X				12/11/2015	9/23/2016	266	258			0

Part I, Line 6 (990-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Long Term CG Distributions		Short Term CG Distributions		Amount		Totals		Capital Gains/Losses		Gross Sales		Cost or Other Basis Expenses, Depreciation and Adjustments		Net Gain or Loss	
				4,679		0		Other sales		2,445,739		0		49,912	
		CUSIP #	Check "X" to include in Part IV	Purchaser	Check "X" if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sold	Gross Sales Price	Cost or Other Basis	Valuation Method	Expense of Sale and Cost of Improvements	Depreciation	Adjustments	Net Gain or Loss
73	PIMCO INVESTMENT GRADE	72201ME85	X				12/11/2015	3/28/2016	595	574				0	21
74	PIMCO INVESTMENT GRADE	72201ME85	X				10/31/2016	11/9/2016	4	4				0	0
75	PIMCO INVESTMENT GRADE	72201ME85	X				7/19/2016	8/4/2016	21	21				0	0
76	TEMPLETON GLOBAL TOTAL	880208855	X				6/17/2016	8/4/2016	54	58				0	4
77	TEMPLETON GLOBAL TOTAL	880208855	X				3/17/2016	8/4/2016	11	11				0	0
78	TEMPLETON GLOBAL TOTAL	880208855	X				3/17/2016	8/4/2016	54	55				0	1
79	TEMPLETON GLOBAL TOTAL	880208855	X				2/18/2016	8/4/2016	11	11				0	0
80	TEMPLETON GLOBAL TOTAL	880208855	X				2/18/2016	8/4/2016	45	45				0	0
81	TEMPLETON GLOBAL TOTAL	880208855	X				1/20/2016	8/4/2016	56	54				0	2
82	TEMPLETON GLOBAL TOTAL	880208855	X				12/17/2015	8/4/2016	5,138	5,040				0	98
83	TEMPLETON GLOBAL TOTAL	880208855	X				12/17/2015	8/4/2016	11	11				0	0
84	TEMPLETON GLOBAL TOTAL	880208855	X				12/17/2015	8/4/2016	34	34				0	0
85	TEMPLETON GLOBAL TOTAL	880208855	X				12/11/2015	8/4/2016	17,018	17,055				0	0
86	TEMPLETON GLOBAL TOTAL	880208855	X				3/3/2016	8/4/2016	10	9				0	1
87	LYRICAL US VALUE EQUITY	52386H404	X				3/3/2016	8/4/2016	21,081	19,398				0	1,683
88	LYRICAL US VALUE EQUITY	52386H404	X				3/3/2016	8/4/2016	37	34				0	3
89	JP MORGAN UNDISCVRD MINT	504504495	X				8/31/2016	9/28/2016	11,065	10,324				0	741
90	JP MORGAN UNDISCVRD MINT	504504495	X				8/31/2016	9/28/2016	154	159				6	-5
91	RIVERNORTH DOUBLE LINE	7388N202	X				8/31/2016	9/28/2016	41	42				0	-1
92	RIVERNORTH DOUBLE LINE	7388N202	X				1/12/2016	9/28/2016	2,455	2,344				0	111
93	RIVERNORTH DOUBLE LINE	7388N202	X				1/12/2016	9/28/2016	1	1				0	0
94	RIVERNORTH DOUBLE LINE	7388N202	X				10/31/2016	11/9/2016	4	4				0	0
95	RIVERNORTH DOUBLE LINE	7388N202	X				10/31/2016	11/9/2016	136	137				0	-1
96	RIVERNORTH DOUBLE LINE	7388N202	X				10/31/2016	11/9/2016	10	11				0	-1
97	RIVERNORTH DOUBLE LINE	7388N202	X				9/2/2016	11/9/2016	10	11				0	-1
98	RIVERNORTH DOUBLE LINE	7388N202	X				9/2/2016	11/9/2016	94	99				5	-5
99	RIVERNORTH DOUBLE LINE	7388N202	X				9/2/2016	11/9/2016	52	55				3	-3
100	RIVERNORTH DOUBLE LINE	7388N202	X				11/2/2016	12/22/2016	135	136				2	-1
101	RIVERNORTH DOUBLE LINE	7388N202	X				9/23/2016	12/22/2016	52	55				3	-3
102	RIVERNORTH DOUBLE LINE	7388N202	X				9/2/2016	12/22/2016	93	99				6	-6
103	RIVERNORTH DOUBLE LINE	7388N202	X				11/2/2016	12/22/2016	5,254	5,115				0	1,139
104	RIVERNORTH DOUBLE LINE	7388N202	X				12/20/2016	12/22/2016	3	3				0	0
105	RIVERNORTH DOUBLE LINE	7388N202	X				10/6/2016	11/3/2016	8	8				0	0
106	RIVERNORTH DOUBLE LINE	7388N202	X				5/14/2012	8/4/2016	12,530	7,800				0	4,730
107	UIT	73463V107	X				5/8/2012	8/4/2016	3,770	2,377				0	1,393
108	VANGUARD TOTAL STK MKT	922908769	X				9/20/2016	11/9/2016	777	772				0	5
109	VANGUARD TOTAL STK MKT	922908769	X				9/20/2016	12/22/2016	116	110				0	6
110	VANGUARD TOTAL STK MKT	922908769	X				5/14/2012	12/22/2016	14,285	8,491				0	5,794
111	VANGUARD TOTAL STK MKT	922908769	X				12/20/2016	12/22/2016	8	8				0	0
112	VANGUARD TOTAL STK MKT	922908769	X				3/3/2016	12/22/2016	980	940				0	40
113	VICTORY TRIVALENT INTL	93647K507	X				6/20/2016	8/4/2016	3	3				0	0
114	VICTORY TRIVALENT INTL	93647K507	X				3/3/2016	8/4/2016	39	39				0	0
115	AMER FUNDS WASHINGTON	939330825	X				3/3/2016	3/4/2016	84	76				0	8
116	AMER FUNDS WASHINGTON	939330825	X				12/20/2016	12/22/2016	6	8				0	-2
117	AMER FUNDS WASHINGTON	939330825	X				12/20/2016	12/22/2016	30	41				0	-11
118	AMER FUNDS WASHINGTON	939330825	X				9/19/2016	12/22/2016	30	40				0	-10
119	AMER FUNDS WASHINGTON	939330825	X				3/3/2016	12/22/2016	1,067	946				0	121
120	AMER FUNDS WASHINGTON	939330825	X				3/3/2016	12/22/2016	20	26				0	-6
121	AMER FUNDS WASHINGTON	939330825	X				11/29/2016	12/22/2016	34	33				0	1
122	AMER FUNDS WASHINGTON	939330825	X				11/29/2016	12/22/2016	34	34				0	0
123	WISDOMTREE U.S. QUALITY	9717X669	X				10/31/2016	12/22/2016	34	32				0	2
124	WISDOMTREE U.S. QUALITY	9717X669	X				10/3/2016	12/22/2016	101	97				0	4
125	WISDOMTREE U.S. QUALITY	9717X669	X				8/29/2016	12/22/2016	34	33				0	1
126	WISDOMTREE U.S. QUALITY	9717X669	X				8/1/2016	12/22/2016	34	33				0	1
127	WISDOMTREE U.S. QUALITY	9717X669	X				8/1/2016	12/22/2016	67	65				0	2
128	WISDOMTREE U.S. QUALITY	9717X669	X				6/27/2016	12/22/2016	34	30				0	4
129	WISDOMTREE U.S. QUALITY	9717X669	X				12/1/2015	12/22/2016	2,316	2,074				0	242
130	WISDOMTREE U.S. QUALITY	9717X669	X				11/9/2016	12/22/2016	1,518	1,513				0	5
131	WISDOMTREE U.S. QUALITY	9717X669	X				12/22/2016	12/22/2016	2,202	2,469				267	-267
132	VANGUARD MSCI EUROPEAL	92042874	X				6/28/2016	8/4/2016	85	80				0	5
133	VANECK VECTORS GOLD	97189F106	X				12/11/2015	12/22/2016	255	231				0	24
134	VANGUARD DIVIDEND	971808844	X				9/20/2016	12/22/2016	86	83				0	3
135	VANGUARD DIVIDEND	971808844	X				12/11/2015	12/22/2016	1,545	1,387				0	158
136	VANGUARD DIVIDEND	971808844	X				6/27/2016	8/4/2016	1,478	1,445				0	33
137	VANGUARD DIVIDEND	971808844	X				11/2/2016	8/4/2016	7,115	6,522				0	593
138	VANGUARD TOTAL INTL STK	921909768	X				9/20/2016	12/22/2016	882	699				16	-16
139	VANGUARD TOTAL INTL STK	921909768	X				9/20/2016	12/22/2016	46	47				0	-1
140	VANGUARD TOTAL INTL STK	921909768	X				11/2/2016	12/22/2016	8,871	8,258				0	613
141	VANGUARD TOTAL INTL STK	921909768	X				6/4/2016	8/4/2016	776	746				0	30
142	VANGUARD TOTAL INTL STK	921909768	X				8/4/2016	8/22/2016	8	8				0	0
143	VANGUARD TOTAL STK MKT	922908769	X												0
144	PIMCO INCOME FUND CL P	72201M719	X												0

Part I, Line 6 (990-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Long Term CG Distributions		Amount		Check "X" to include in Part IV	Purchaser	Check "X" if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sold	Gross Sales Price	Cost or Other Basis	Valuation Method	Expense of Sale and Cost of Improvements	Depreciation	Adjustments	Net Gain or Loss
Short Term CG Distributions		4,679	0													
Description	CUSIP #															
145 PIMCO INCOME FUND CL P	72201M719			X				7/29/2016	8/23/2016	153	156				3	0
146 PIMCO INCOME FUND CL P	72201M719			X				6/30/2016	8/23/2016	12	12				0	0
147 PIMCO INCOME FUND CL P	72201M719			X				6/30/2016	8/23/2016	141	143				2	0
148 PIMCO INCOME FUND CL P	72201M719			X				12/11/2015	8/23/2016	1,939	1,935				0	0
149 PIMCO INCOME FUND CL P	72201M719			X				10/31/2016	11/9/2016	4	4				0	0
150 PIMCO INCOME FUND CL P	72201M719			X				10/31/2016	11/9/2016	252	253				0	0
151 PIMCO INCOME FUND CL P	72201M719			X				9/30/2016	11/9/2016	84	84				0	0
152 PIMCO INCOME FUND CL P	72201M719			X				9/30/2016	11/9/2016	84	84				0	0
153 PIMCO INCOME FUND CL P	72201M719			X				8/31/2016	11/9/2016	168	168				0	0
154 PIMCO INCOME FUND CL P	72201M719			X				12/11/2015	11/9/2016	641	637				0	0
155 PIMCO INCOME FUND CL P	72201M719			X				12/20/2016	12/22/2016	6	6				0	0
156 PIMCO INCOME FUND CL P	72201M719			X				10/21/2016	12/22/2016	12	12				0	0
157 PIMCO INCOME FUND CL P	72201M719			X				10/21/2016	12/22/2016	70	72				2	0
158 PIMCO INCOME FUND CL P	72201M719			X				9/21/2016	12/22/2016	164	168				4	0
159 PIMCO INCOME FUND CL P	72201M719			X				12/11/2015	12/22/2016	4,578	4,568				0	0
160 PIMCO INCOME FUND CL P	72201M719			X				12/11/2015	12/22/2016	1	1				0	0
161 POWERSHARES FTSE RAFI	73938T763			X				6/24/2016	8/4/2016	772	679				0	0
162 POWERSHARES FTSE RAFI	73938T763			X				10/20/2016	12/22/2016	86	90				2	0
163 POWERSHARES FTSE RAFI	73938T763			X				6/24/2016	12/22/2016	2,140	1,884				0	0
164 PRUDENTIAL JENNISON	74441P866			X				12/20/2016	12/22/2016	14	14				0	0
165 PRUDENTIAL JENNISON	74441P866			X				11/9/2016	12/22/2016	39	42				3	0
166 PRUDENTIAL JENNISON	74441P866			X				11/9/2016	12/22/2016	39	42				3	0
167 PRUDENTIAL JENNISON	74441P866			X				11/9/2016	12/22/2016	742	794				53	0
168 PRUDENTIAL JENNISON	74441P866			X				11/9/2016	12/22/2016	1,171	1,254				83	0
169 PRUDENTIAL SHOFI DUR	744421307			X				10/31/2016	11/9/2016	3	3				0	0
170 PRUDENTIAL SHOFI DUR	744421307			X				10/31/2016	11/9/2016	90	91				1	0
171 PRUDENTIAL SHOFI DUR	744421307			X				9/30/2016	11/9/2016	9	9				0	0
172 PRUDENTIAL SHOFI DUR	744421307			X				9/28/2016	11/9/2016	37	37				0	0
173 PRUDENTIAL SHOFI DUR	744421307			X				12/1/2016	12/8/2016	9	9				0	0
174 PRUDENTIAL SHOFI DUR	744421307			X				12/1/2016	12/8/2016	7	7				0	0
175 PRUDENTIAL SHOFI DUR	744421307			X				12/1/2016	12/8/2016	34	36				0	0
176 PRUDENTIAL SHOFI DUR	744421307			X				11/21/2016	12/8/2016	86	91				0	0
177 PRUDENTIAL SHOFI DUR	744421307			X				10/21/2016	12/8/2016	9	9				0	0
178 PRUDENTIAL SHOFI DUR	744421307			X				9/28/2016	12/8/2016	36	37				0	0
179 PRUDENTIAL SHOFI DUR	744421307			X				9/28/2016	12/8/2016	21,459	21,713				0	0
180 PUTNAM TAX FREE HIGH	7468T2878			X				8/4/2016	8/23/2016	65	65				0	0
181 PUTNAM TAX FREE HIGH	7468T2878			X				7/29/2016	8/23/2016	9	9				1	0
182 PUTNAM TAX FREE HIGH	78463V107			X				11/9/2016	12/5/2016	1,004	1,092				0	0
183 SPDR GOLD TRUST	78463V107			X				10/6/2016	12/8/2016	22,428	23,991				0	0
184 SPDR GOLD TRUST	78463V107			X				8/10/2016	8/23/2016	59	59				0	0
185 SPDR BLMBRG BAFCLAYS	7846A6A49			X				8/10/2016	8/23/2016	59	59				0	0
186 SPDR BLMBRG BAFCLAYS	7846A6A49			X				7/13/2016	8/23/2016	59	60				0	0
187 SPDR BLMBRG BAFCLAYS	7846A6A49			X				12/1/2016	8/23/2016	2,438	2,355				0	0
188 SPDR BLMBRG BAFCLAYS	7846A6A49			X				9/13/2016	9/28/2016	59	59				0	0
189 SPDR BLMBRG BAFCLAYS	7846A6A49			X				12/1/2016	9/28/2016	2,017	1,953				0	0
190 SPDR BLMBRG BAFCLAYS	7846A6A49			X				12/1/2016	12/8/2016	57	57				0	0
191 SPDR BLMBRG BAFCLAYS	7846A6A49			X				12/1/2016	12/8/2016	57	57				0	0
192 SPDR BLMBRG BAFCLAYS	7846A6A49			X				11/10/2016	12/8/2016	57	58				0	0
193 SPDR BLMBRG BAFCLAYS	7846A6A49			X				11/10/2016	12/8/2016	342	348				0	0
194 SPDR BLMBRG BAFCLAYS	7846A6A49			X				11/9/2016	12/8/2016	57	58				0	0
195 SPDR BLMBRG BAFCLAYS	7846A6A49			X				10/12/2016	12/8/2016	57	59				0	0
196 SPDR BLMBRG BAFCLAYS	7846A6A49			X				10/12/2016	12/8/2016	57	59				0	0
197 SPDR BLMBRG BAFCLAYS	7846A6A49			X				8/10/2016	12/8/2016	57	60				0	0
198 SPDR BLMBRG BAFCLAYS	7846A6A49			X				8/4/2016	12/8/2016	3,647	3,805				0	0
199 SPDR BLMBRG BAFCLAYS	7846A6A49			X				7/13/2016	12/8/2016	57	60				0	0
200 SPDR BLMBRG BAFCLAYS	7846A6A49			X				8/23/2016	8/23/2016	84	84				0	0
201 VANGUARD TOTAL BOND MK	921937835			X				7/11/2016	8/23/2016	84	85				0	0
202 VANGUARD TOTAL BOND MK	921937835			X				11/2/2016	8/23/2016	2,447	2,354				0	0
203 VANGUARD TOTAL BOND MK	921937835			X				9/9/2016	8/23/2016	84	84				0	0
204 VANGUARD TOTAL BOND MK	921937835			X				11/2/2016	9/28/2016	2,021	1,948				0	0
205 VANGUARD TOTAL BOND MK	921937835			X				11/2/2016	9/28/2016	80	81				0	0
206 VANGUARD TOTAL BOND MK	921937835			X				11/8/2016	12/22/2016	80	83				3	0
207 VANGUARD TOTAL BOND MK	921937835			X				10/10/2016	12/22/2016	80	83				0	0
208 VANGUARD TOTAL BOND MK	921937835			X				11/2/2016	12/22/2016	3,210	3,247				0	0
209 VANGUARD TOTAL BOND MK	921937835			X				8/4/2016	8/17/2016	1,287	1,287				0	0
210 VANGUARD MSCI EUROPEAN	922042874			X				7/15/2016	8/17/2016	22,985	22,127				0	0
211 VANGUARD MSCI EUROPEAN	922042874			X				9/22/2016	11/9/2016	11	11				1	0
212 PIMCO INVESTMENT GRADE	72201M685			X				9/22/2016	11/9/2016	21	22				0	0
213 PIMCO INVESTMENT GRADE	72201M685			X				9/22/2016	11/9/2016	41	44				0	0
214 PIMCO INVESTMENT GRADE	72201M685			X				6/30/2016	12/8/2016	66	66				0	0
215 PIMCO INVESTMENT GRADE	72201M685			X				12/9/2016	12/8/2016	61	60				0	0

Part I, Line 6 (990-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Description	CUSIP #	Check "X" to include in Part IV	Purchaser	Check "X" if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sold	Gross Sales Price	Cost or Other Basis	Valuation Method	Totals		Gross Sales	Cost or Other Basis, Expenses Depreciation and Adjustments	Adjustments	Net Gain or Loss
											Capital Gains/Losses	Other sales				
Long Term CG Distributions	Amount	4,679	0										2,445,739	2,395,827		49,912
Short Term CG Distributions													0			0
217 PIMCO INVESTMENT GRADE	72201M655	X				11/30/2016	12/8/2015	3	3							0
218 PIMCO INVESTMENT GRADE	72201M655	X				11/30/2016	12/8/2015	30	30							0
219 PIMCO INVESTMENT GRADE	72201M655	X				11/30/2016	12/8/2015	20	20							0
220 PIMCO INVESTMENT GRADE	72201M655	X				9/23/2016	12/8/2015	20	21							0
221 PIMCO INVESTMENT GRADE	72201M655	X				9/23/2016	12/8/2015	10	11							0
222 PIMCO INVESTMENT GRADE	72201M655	X				8/2/2016	12/8/2015	856	887							0
223 PIMCO INVESTMENT GRADE	72201M655	X				6/3/2016	12/8/2015	71	78							0
224 PIMCO INVESTMENT GRADE	72201M655	X				6/3/2016	12/8/2015	10	11							0
225 PIMCO INVESTMENT GRADE	72201M655	X				3/31/2016	12/8/2015	10	10							0
226 PIMCO INVESTMENT GRADE	72201M655	X				3/31/2016	12/8/2015	71	71							0
227 PIMCO INVESTMENT GRADE	72201M655	X				2/23/2016	12/8/2015	82	80							0
228 PIMCO INVESTMENT GRADE	72201M655	X				2/23/2016	12/8/2015	10	10							0
229 PIMCO INVESTMENT GRADE	72201M655	X				1/13/2016	12/8/2015	5,259	5,134							0
230 PIMCO INVESTMENT GRADE	72201M655	X				12/9/2015	12/8/2015	163	160							0
231 PIMCO INVESTMENT GRADE	72201M655	X				12/9/2015	12/8/2015	143	140							0
232 PIMCO INVESTMENT GRADE	72201M655	X				12/9/2015	12/8/2015	10	10							0
233 PIMCO INVESTMENT GRADE	72201M655	X				12/9/2015	12/8/2015	16,255	16,349							0
234 PIMCO INVESTMENT GRADE	72201M655	X				12/9/2015	12/8/2015	10	10							0
235 PIMCO INVESTMENT GRADE	72201M655	X				9/5/2016	12/8/2015	40	44							0
236 RIVERNORTH DOUBLE LINE	78881N212	X				1/12/2016	6/23/2015	5	4							0
237 RIVERNORTH DOUBLE LINE	78881N212	X				8/31/2016	9/28/2015	8	8							0
238 RIVERNORTH DOUBLE LINE	78881N212	X				8/31/2016	9/28/2015	10	11							0
239 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	9,517	9,594							0
240 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	57	57							0
241 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	28,323	28,548							0
242 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	57	57							0
243 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	57	59							0
244 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	34	34							0
245 SPDR BLMBRG BARCLAYS	78464A619	X				12/11/2015	12/8/2015	355	355							0
246 SMEAD VALUE FUND	83178C873	X				1/12/2016	3/4/2016	34	33							0
247 SMEAD VALUE FUND	83178C873	X				1/12/2016	3/4/2016	19,077	18,483							0
248 SMEAD VALUE FUND	83178C873	X				8/17/2016	6/23/2015	5	6							0
249 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	38	38							0
250 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	1,152	1,151							0
251 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	45	45							0
252 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	1	1							0
253 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	11	11							0
254 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	44	52							0
255 TEMPLETON GLBL BOND FD	880208400	X				8/17/2016	6/23/2015	22,722	22,820							0
256 TEMPLETON GLBL BOND FD	880208400	X				7/13/2016	3/4/2016	5	5							0
257 TEMPLETON GLOBAL TOTAL	880208955	X				1/12/2016	3/4/2016	301	284							0
258 AMG YACKTMAN FOCUSED	00170K522	X				1/12/2016	3/4/2016	11	10							0
259 AMG YACKTMAN FOCUSED	00170K522	X				1/12/2016	3/4/2016	5	5							0
260 AMG YACKTMAN FOCUSED	00170K522	X				8/23/2016	1/9/2016	415	358							0
261 AMG YACKTMAN FOCUSED	00170K522	X				1/12/2016	1/9/2016	5	4							0
262 AMG YACKTMAN FOCUSED	00170K522	X				1/12/2016	1/9/2016	9	8							0
263 AMG YACKTMAN FOCUSED	00170K522	X				1/12/2016	1/9/2016	2,013	1,715							0
264 AMG YACKTMAN FOCUSED	00170K522	X				12/10/2016	12/22/2016	7	7							0
265 AMG YACKTMAN FOCUSED	00170K522	X				12/10/2016	12/22/2016	11,845	8,006							0
266 KOPERNIK GLOBAL ALL CAP	00768Y259	X				12/10/2016	3/4/2016	3	2							0
267 KOPERNIK GLOBAL ALL CAP	00768Y259	X				12/10/2016	3/4/2016	2	0							0
268 KOPERNIK GLOBAL ALL CAP	00768Y259	X				12/10/2016	3/4/2016	2,143	1,454							0
269 KOPERNIK GLOBAL ALL CAP	00768Y259	X				12/10/2016	3/4/2016	18,579	16,358							0
270 KOPERNIK GLOBAL ALL CAP	00768Y259	X				12/10/2016	3/4/2016	549	432							0
271 KOPERNIK GLOBAL ALL CAP	00768Y259	X				1/12/2016	3/4/2016	7,093	5,794							0
272 POPLAR FOREST PARTNERS	007680758	X				1/12/2016	3/4/2016	46	36							0
273 POPLAR FOREST PARTNERS	007680758	X				1/12/2016	3/4/2016	46	40							0
274 POPLAR FOREST PARTNERS	007680758	X				1/12/2016	3/4/2016	4	4							0
275 POPLAR FOREST PARTNERS	007680758	X				6/23/2016	3/4/2016	15	14							0
276 POPLAR FOREST PARTNERS	007680758	X				6/23/2016	3/4/2016	51	51							0
277 AMER FUNDS AMCAP	023375827	X				3/5/2016	12/22/2016	11	13							0
278 AMER FUNDS AMCAP	023375827	X				3/5/2016	12/22/2016	840	761							0
279 AMER FUNDS AMCAP	023375827	X				12/10/2016	12/22/2016	45	55							0
280 AMER FUNDS AMCAP	023375827	X				7/29/2016	12/22/2016	119	120							0
281 AMER FUNDS AMCAP	023375827	X				8/12/2016	12/23/2016	2	2							0
282 AMER FUNDS AMCAP	023375827	X				6/30/2016	12/23/2016	107	107							0
283 BLACKROCK TOTAL RETURN	09252ME63	X				6/30/2016	12/23/2016	12	12							0
284 BLACKROCK TOTAL RETURN	09252ME63	X				1/12/2016	12/23/2016	3,239	3,127							0
285 BLACKROCK TOTAL RETURN	09252ME63	X				8/31/2016	12/23/2016	116	120							0
286 BLACKROCK TOTAL RETURN	09252ME63	X														0
287 BLACKROCK TOTAL RETURN	09252ME63	X														0
288 BLACKROCK TOTAL RETURN	09252ME63	X														0

Part I, Line 6 (990-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Long Term CG Disint:unions Short Term CG Disint:unions	Description	CUSIP #	Check "X" to include in Part IV	Purchaser	Check "X" if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sold	Gross Sales Price	Cost or Other Basis	Valuation Method	Totals			Net Gain or Loss
												Gross Sales	Cost or Other Basis	Expenses, Depreciation and Adjustments	
		Amount							Capital Gains/Losses			2,445,739		2,395,827	49,912
		0							Other sales			0		0	0
289	BLAC-KROCK TOTAL RETURN	09252M833	X				8/31/2016	9/28/2016	4	4					0
290	BLAC-KROCK TOTAL RETURN	09252M883	X				1/12/2016	9/28/2016	4,660	4,505					155
291	BLAC-KROCK TOTAL RETURN	09252M883	X				8/31/2016	9/28/2016	12	12					0
292	BLAC-KROCK TOTAL RETURN	09252M883	X				9/2/2016	1/19/2016	117	123					6
293	BLAC-KROCK TOTAL RETURN	09252M883	X				10/31/2016	1/19/2016	10	10					0
294	BLAC-KROCK TOTAL RETURN	09252M883	X				12/22/2015	12/22/2015	111	124					13
295	BLAC-KROCK TOTAL RETURN	09252M883	X				9/2/2016	12/22/2015	122	127					5
296	BLAC-KROCK TOTAL RETURN	09252M883	X				11/30/2016	12/22/2015	4,234	4,250					16
297	BLAC-KROCK TOTAL RETURN	09252M883	X				1/12/2016	12/22/2015	10	10					0
298	BLAC-KROCK FLOATING RAT	09256H137	X				3/31/2016	6/15/2016	60	59					1
299	BLAC-KROCK FLOATING RAT	09256H137	X				12/20/2016	6/15/2016	10	10					0
300	BLAC-KROCK FLOATING RAT	09256H137	X				1/12/2016	6/15/2016	30,632	30,205					427
301	BLAC-KROCK FLOATING RAT	09256H137	X				2/29/2016	6/15/2016	100	97					3
302	BLAC-KROCK FLOATING RAT	09256H137	X				3/31/2016	6/15/2016	3	3					0
303	BLAC-KROCK FLOATING RAT	09256H137	X				3/31/2016	6/15/2016	100	99					1
304	BLAC-KROCK STRATEGIC	09256H236	X				3/31/2016	8/4/2016	49	48					1
305	BLAC-KROCK STRATEGIC	09256H236	X				2/29/2016	8/4/2016	59	58					1
306	BLAC-KROCK STRATEGIC	09256H236	X				12/20/2016	8/4/2016	39	38					1
307	BLAC-KROCK STRATEGIC	09256H236	X				3/31/2016	8/4/2016	2	2					0
308	BLAC-KROCK STRATEGIC	09256H236	X				3/31/2016	8/4/2016	10	10					0
309	BLAC-KROCK STRATEGIC	09256H236	X				3/31/2016	8/4/2016	10	10					0
310	BLAC-KROCK STRATEGIC	09256H236	X				1/12/2016	8/4/2016	32,479	32,286					193
311	BLAC-KROCK STRATEGIC	09256H236	X				6/15/2016	8/23/2016	1,666	1,666					0
312	CREDIT SUISSE FLOATING	22540S836	X				12/29/2015	8/23/2016	40	39					1
313	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	8/23/2016	3	3					0
314	CREDIT SUISSE FLOATING	22540S836	X				8/4/2016	8/23/2016	3	3					0
315	CREDIT SUISSE FLOATING	22540S836	X				6/30/2016	8/23/2016	7	7					0
316	CREDIT SUISSE FLOATING	22540S836	X				6/30/2016	8/23/2016	52	53					1
317	CREDIT SUISSE FLOATING	22540S836	X				7/29/2016	8/23/2016	130	134					4
318	CREDIT SUISSE FLOATING	22540S836	X				8/31/2016	8/23/2016	120	121					1
319	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	9/28/2016	0	0					0
320	CREDIT SUISSE FLOATING	22540S836	X				8/31/2016	9/28/2016	2	2					0
321	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	9/28/2016	1,488	1,474					14
322	CREDIT SUISSE FLOATING	22540S836	X				8/31/2016	9/28/2016	7	7					0
323	CREDIT SUISSE FLOATING	22540S836	X				8/31/2016	9/28/2016	7	7					0
324	CREDIT SUISSE FLOATING	22540S836	X				9/2/2016	1/19/2016	7	7					0
325	CREDIT SUISSE FLOATING	22540S836	X				10/31/2016	1/19/2016	7	7					0
326	CREDIT SUISSE FLOATING	22540S836	X				9/2/2016	1/19/2016	7	7					0
327	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	1/19/2016	2	2					0
328	CREDIT SUISSE FLOATING	22540S836	X				9/2/2016	1/19/2016	107	108					1
329	CREDIT SUISSE FLOATING	22540S836	X				10/31/2016	1/19/2016	1	1					0
330	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	1/19/2016	454	445					9
331	CREDIT SUISSE FLOATING	22540S836	X				10/31/2016	1/19/2016	107	108					1
332	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	1/19/2016	5	5					0
333	CREDIT SUISSE FLOATING	22540S836	X				12/20/2015	1/19/2016	1	1					0
334	CREDIT SUISSE FLOATING	22540S836	X				9/23/2016	12/22/2015	103	108					5
335	CREDIT SUISSE FLOATING	22540S836	X				6/15/2016	12/22/2015	6,247	6,074					173
336	CREDIT SUISSE FLOATING	22540S836	X				12/20/2015	6/24/2016	263	280					17
337	DEUTSCHE X-TRACKERS MS	23051240	X				12/11/2015	6/24/2016	19,503	21,653					-2,150
338	DEUTSCHE X-TRACKERS MS	23051240	X				9/23/2016	1/19/2016	105	115					10
339	DELAWARE VALUE FUND	24610C857	X				8/4/2016	1/19/2016	4,886	4,930					44
340	DELAWARE VALUE FUND	24610C857	X				9/23/2016	1/19/2016	11	12					1
341	DELAWARE VALUE FUND	24610C857	X				9/23/2016	1/19/2016	8	8					0
342	DELAWARE VALUE FUND	24610C857	X				12/22/2015	12/22/2015	2,000	1,960					40
343	DELAWARE VALUE FUND	24610C857	X				11/2/2016	8/4/2016	2,022	1,864					158
344	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	8/4/2016	5	5					0
345	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	8/4/2016	9	8					1
346	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	8/4/2016	3	3					0
347	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	8/4/2016	3	3					0
348	EATON VANCE RCHRC BRST	27790253	X				8/23/2016	9/20/2016	8,295	7,620					675
349	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	1/19/2016	8	8					0
350	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	1/19/2016	119	108					11
351	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	12/22/2015	1,750	1,581					169
352	EATON VANCE RCHRC BRST	27790253	X				12/22/2016	12/22/2015	10	10					0
353	EATON VANCE RCHRC BRST	27790253	X				1/12/2016	12/22/2015	2	2					0
354	EATON VANCE RCHRC BRST	27790253	X				12/20/2016	12/22/2015	7	7					0
355	AMERICAN EURO PAC FIC	28795100	X				3/3/2016	12/22/2016	718	684					34
356	AMERICAN EURO PAC FIC	28795100	X				1/12/2016	12/22/2016	9	18					-9
357	HOTCHKIS & WILEY VZ LUE	44134R844	X				1/12/2016	1/19/2016	5,860	5,158					702
358	HOTCHKIS & WILEY VZ LUE	44134R844	X				1/12/2016	1/19/2016	15	15					0
359	HOTCHKIS & WILEY VZ LUE	44134R844	X				8/23/2016	1/19/2016	2	2					0
360	HOTCHKIS & WILEY VZ LUE	44134R844	X												0

Part I, Line 6 (590-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Long Term CG Distributions		Amount	Totals		Gross Sales		Cost or Other Basis Expenses, Depreciation and Adjustments		Net Gain or Loss	
Short Term CG Distributions		4,678	Capital Gains/Losses Other sales		2,445,739		2,395,827		49,917	
		0								
	</									

Part I, Line 6 (990-PF) - Gain/Loss from Sale of Assets Other Than Inventory

Long Term CG Distributions		Amount	Short Term CG Distributions		Totals										Capital Gains/Losses		Gross Sales		Depreciation and Adjustments		Net Gain or Loss	
		4,679			0										Other sales		2,445,739		2,395,827		49,912	
Description	CUSIP #	Check "X" to include in Part IV	Purchaser	Check "X" if Purchaser is a Business	Acquisition Method	Date Acquired	Date Sale	Gross Sales Price	Cost or Other Basis	Valuation Method	Expense of Sale and Cost of Improvements	Depreciation	Adjustments									
433 LORD ABBETT SHORT	543916464	X				6/30/2016	8/23/2016	68	70					2				0				
434 LORD ABBETT SHORT	543916464	X				6/30/2016	8/23/2016	4	4					0				0				
435 LORD ABBETT SHORT	543916464	X				12/11/2015	8/23/2016	3	3					0				0				
436 LORD ABBETT SHORT	543916464	X				7/29/2016	8/23/2016	1,139	1,130					2				0				
437 LORD ABBETT SHORT	543916464	X				8/31/2016	9/28/2016	72	74					0				0				
438 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	30	31					0				0				
439 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	44	44					0				0				
440 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	305	305					0				0				
441 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	2	2					0				0				
442 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	4	4					0				0				
443 LORD ABBETT SHORT	543916464	X				12/11/2015	9/28/2016	728	723					0				0				
444 LORD ABBETT SHORT	543916464	X				10/31/2016	11/5/2016	4	4					0				0				
445 LORD ABBETT SHORT	543916464	X				10/31/2016	11/5/2016	39	39					0				0				
446 LORD ABBETT SHORT	543916464	X				10/31/2016	11/5/2016	2	2					0				0				
447 LORD ABBETT SHORT	543916464	X				10/31/2016	11/5/2016	26	26					0				0				
448 LORD ABBETT SHORT	543916464	X				12/13/2015	11/9/2016	30	30					0				0				
449 LORD ABBETT SHORT	543916464	X				12/13/2015	11/9/2016	43	44					0				0				
450 LORD ABBETT SHORT	543916464	X				12/11/2015	11/9/2016	127	126					0				0				
451 LORD ABBETT SHORT	543916464	X				12/11/2015	12/22/2016	1	1					0				0				
452 LORD ABBETT SHORT	543916464	X				11/21/2016	12/22/2016	37	39					2				0				
453 LORD ABBETT SHORT	543916464	X				12/20/2016	12/22/2016	2	2					0				0				
454 LORD ABBETT SHORT	543916464	X				12/20/2016	12/22/2016	1,766	1,775					0				0				
455 LORD ABBETT SHORT	543916464	X				8/23/2016	11/9/2016	5	5					0				0				
456 LORD ABBETT SHORT	543916464	X				8/4/2016	11/9/2016	5,233	5,186					0				0				
457 LORD ABBETT SHORT	53273W103	X				12/13/2016	12/22/2016	24	24					1				0				
458 MFS BLENDED RESEARCH	53273W103	X				12/20/2016	12/22/2016	5	5					0				0				
459 MFS BLENDED RESEARCH	53273W103	X				12/20/2016	12/22/2016	237	243					6				0				
460 MFS BLENDED RESEARCH	53273W103	X				8/4/2016	12/22/2016	1,595	1,542					0				0				
461 MFS BLENDED RESEARCH	53273W103	X				12/12/2016	8/4/2016	1	1					0				0				
462 TORTOISE MLP &	56166Y404	X				11/2/2016	8/4/2016	6,205	4,347					0				0				
463 TORTOISE MLP &	56166Y404	X				11/2/2016	8/4/2016	1	1					0				0				
464 TORTOISE MLP &	56166Y404	X				11/2/2016	11/9/2016	120	81					0				0				
465 TORTOISE MLP &	56166Y404	X				12/20/2016	12/22/2016	2	2					0				0				
466 TORTOISE MLP &	56166Y404	X				11/2/2016	12/22/2016	10	6					0				0				
467 TORTOISE MLP &	56166Y404	X				11/2/2016	12/22/2016	21	20					0				0				
468 TORTOISE MLP &	56166Y404	X				8/23/2016	9/23/2016	288	284					0				0				
469 TORTOISE MLP &	56166Y404	X				8/23/2016	9/23/2016	2	2					0				0				
470 TORTOISE MLP &	56166Y404	X				8/4/2016	9/23/2016	288	279					0				0				
471 TORTOISE MLP &	56166Y404	X				12/1/2016	9/23/2016	123	105					0				0				
472 MATTHEWS ASIA SMALL	571125206	X				12/1/2016	9/23/2016	21	18					0				0				
473 MATTHEWS ASIA SMALL	571125206	X				11/2/2016	9/23/2016	2,406	2,139					0				0				
474 MATTHEWS ASIA SMALL	571125206	X				11/2/2016	9/23/2016	8,001	7,267					0				0				
475 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	9/23/2016	19	19					0				0				
476 MATTHEWS ASIA SMALL	571125206	X				8/23/2016	9/23/2016	17	17					0				0				
477 MATTHEWS ASIA SMALL	571125206	X				8/23/2016	9/23/2016	501	508					0				0				
478 MATTHEWS ASIA SMALL	571125206	X				8/23/2016	9/23/2016	4	4					0				0				
479 MATTHEWS ASIA SMALL	571125206	X				8/4/2016	9/23/2016	10,368	10,470					0				0				
480 MATTHEWS ASIA SMALL	571125206	X				12/1/2016	8/4/2016	22	19					0				0				
481 MATTHEWS ASIA SMALL	571125206	X				12/1/2016	8/4/2016	201	188					0				0				
482 MATTHEWS ASIA SMALL	571125206	X				12/1/2016	8/4/2016	3	3					0				0				
483 MATTHEWS ASIA SMALL	571125206	X				11/2/2016	8/4/2016	2,542	2,249					0				0				
484 MATTHEWS ASIA SMALL	571125206	X				11/2/2016	8/4/2016	22	20					0				0				
485 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	8/4/2016	7,939	7,273					0				0				
486 MATTHEWS ASIA SMALL	571125206	X				12/20/2016	12/22/2016	5	5					0				0				
487 MATTHEWS ASIA SMALL	571125206	X				9/20/2016	12/22/2016	5	5					0				0				
488 MATTHEWS ASIA SMALL	571125206	X				12/7/2016	12/22/2016	94	105					11				0				
489 MATTHEWS ASIA SMALL	571125206	X				9/20/2016	12/22/2016	21	23					2				0				
490 MATTHEWS ASIA SMALL	571125206	X				9/20/2016	12/22/2016	725	796					70				0				
491 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	8/23/2016	3	4					0				0				
492 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	8/23/2016	3,251	3,172					0				0				
493 MATTHEWS ASIA SMALL	571125206	X				8/4/2016	8/23/2016	5	5					0				0				
494 MATTHEWS ASIA SMALL	571125206	X				6/30/2016	8/23/2016	85	88					0				0				
495 MATTHEWS ASIA SMALL	571125206	X				7/29/2016	8/23/2016	95	99					0				0				
496 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	9/28/2016	1,515	1,477					0				0				
497 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	9/28/2016	33	32					0				0				
498 MATTHEWS ASIA SMALL	571125206	X				8/31/2016	9/28/2016	60	66					0				0				
499 MATTHEWS ASIA SMALL	571125206	X				12/11/2015	9/28/2016	3,197	3,118					0				0				
500 MATTHEWS ASIA SMALL	571125206	X												0				0				
501 MATTHEWS ASIA SMALL	571125206	X												0				0				
502 MATTHEWS ASIA SMALL	571125206	X												0				0				
503 MATTHEWS ASIA SMALL	571125206	X												0				0				
504 MATTHEWS ASIA SMALL	571125206	X												0				0				

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Part I, Line 16c (990-PF) - Other Professional Fees

		12,348	7,409	0	4,939
Description		Revenue and Expenses per Books	Net Investment Income	Adjusted Net Income	Disbursements for Charitable Purposes (Cash Basis Only)
1	CMA FEES	3,386	2,032		1,354
2	UST-MLT FEES AS AGENT	8,962	5,377		3,585

Part I, Line 18 (990-PF) - Taxes

		13,670	498	0	0
Description		Revenue and Expenses per Books	Net Investment Income	Adjusted Net Income	Disbursements for Charitable Purposes
1	FOREIGN TAX WITHHELD	498	498		
2	PY EXCISE TAX DUE	6,586			
3	ESTIMATED EXCISE PAYMENTS	6,586			

Part I, Line 23 (990-PF) - Other Expenses

		188	28	0	160
Description		Revenue and Expenses per Books	Net Investment Income	Adjusted Net Income	Disbursements for Charitable Purposes
1	STATE AG FEES	160	0		160
2	INVESTMENT EXPENSE	28	28		

Part II, Line 10a (990-PF) - Investments - U.S. and State Government Obligations

		Federal		State/Local		44,988		0		44,999	
		0		0		0		0		0	
	Description	Num Shares/ Face Value	Book Value Beg of Year	Book Value End of Year	FMV Beg of Year	FMV End of Year	State/Local Obligation				
1					0						
2	U S TREASURY BILL		0	44,988		44,999					

Part II, Line 13 (990-PF) - Investments - Other

	Asset Description	Basis of Valuation	Book Value Beg. of Year	Book Value End of Year	FMV End of Year
1			0	1,355,133	1,436,177
2	AMG YACKTMAN FOCUSED		0	28,478	28,497
3	KOPERNIK GLOBAL ALL CAP		0	21,002	28,598
4	AMER FUNDS AMCAP		0	9,255	9,754
5	BLACKROCK BOND FUND		0	61,079	61,005
6	CREDIT SUISSE FLOATING		0	85,125	85,865
7	DELAWARE VALUE FUND		0	28,307	28,517
8	EATON VANCE RCHRD BRSTN		0	22,693	24,307
9	AMERICAN EURO PACIFIC		0	9,557	9,856
10	HOTCHKIS & WILEY HIGH		0	29,314	29,920
11	HOTCHKIS & WILEY FDS		0	22,639	24,860
12	HOTCHKIS & WILEY VALUE		0	23,894	28,388
13	ARISTOTLE/SAUL GLOBAL		0	22,522	24,365
14	ISHARES TRUST SHS ISHARE		0	23,627	24,908
15	ISHARES INC MSCI MEXICO FREE INDEX		0	8,187	7,607
16	ISHARES TR		0	50,885	50,896
17	SHARES DJ EPAC SEL DV		0	10,290	10,868
18	ISH TR CORE DIVID GROWTH		0	35,965	40,240
19	LORD ABBETT SHORT		0	25,380	25,240
20	MFS BLENDED RESEARCH		0	24,872	25,211
21	TORTOISE MLP &		0	14,859	21,061
22	MATTHEWS ASIA PACIFIC		0	13,715	12,941
23	PIMCO SHORT-TERM FUND		0	60,501	60,636
24	PIMCO INCOME FUND CL P		0	65,370	65,823
25	POWERSHARES FTSE RAFF		0	39,698	40,148
26	PRUDENTIAL JENNISON		0	30,264	28,639
27	RIVERNORTH DOUBLE LINE		0	74,811	76,160
28	VANECK VECTORS GOLD		0	32,455	32,635
29	VANGUARD DIVIDEND		0	26,645	28,732
30	VANGUARD TOTAL INTL STK		0	138,745	147,274
31	VANGUARD TOTAL BOND MKT		0	51,355	51,052
32	VANGUARD EUROPEAN ETF		0	21,334	21,621
33	VANGUARD INDEX TR VANGUARD TOTAL		0	182,760	217,184
34	VICTORY MUNDER INTL		0	13,221	13,610
35	AMER FUNDS WASHINGTON		0	9,281	9,752
36	WISDOMTREE TR		0	37,048	40,007

Part III (990-PF) - Changes in Net Assets or Fund Balances

Line 3 - Other increases not included in Part III, Line 2

1	CHECKS PAID IN 2016, CLEARED IN 2017	1	10,000
2	Total	2	10,000

Line 5 - Decreases not included in Part III, Line 2

1	PY GRANTS SETTLED IN CY	1	266,000
2	COST BASIS ADJUSTMENT	2	2,264
3	Total	3	268,264

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Apple 2021 ESG Report



Environmental Social Governance Report

"At the heart of our work is a steadfast commitment to doing right by the planet and its people. We're transparent about our ambitions and the steps we're taking toward them, because we know the global challenges we're tackling—and their solutions—are bigger than any one company or individual."

Lisa Jackson

Vice President Environment, Policy and Social Initiatives

The rainbow arches at Apple Park in Cupertino, CA are a nod to Apple's original logo and an expression of our inclusive values.

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ESG Index ↗

This report contains forward-looking statements and actual results may differ. Numbers and percentages in this report include estimates or approximations and may be based on assumptions. For more information, see 'About the report'.

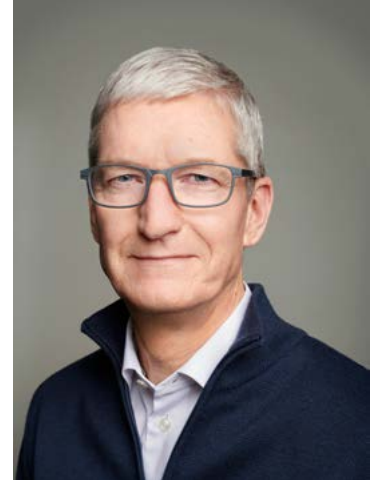
At Apple, we are optimistic about technology's awesome potential for good. But we know that it won't happen on its own. Every day, we work to infuse the products and services we make with decency and humanity. And we strive to build the best products on earth while leaving the world better than we found it.

Living up to that commitment means staying true to the values that have defined Apple from the beginning. It means innovating to protect people's privacy, which we believe is a fundamental human right. It means creating technology that is accessible for all people. It means building a company culture that is inclusive and a team that represents the diversity of our world. It means treating our colleagues, customers, and supply chain partners with dignity and respect, and protecting the planet we all share.

In all this, we're mindful that global challenges like climate change must be tackled not just by governments but by innovative companies. We are proud to be carbon neutral today, and we've set an ambitious goal to make our entire worldwide supply chain and the use of our products carbon neutral by 2030. We're also partnering with nonprofit and community leaders to help students access a quality education and learn vital skills like coding, to break down systemic barriers to opportunity in our economy, and to invest in the next generation of diverse entrepreneurs and problem-solvers.

This report comes in the wake of a year defined by the COVID-19 pandemic, and from its earliest days, the first question we asked ourselves was, "how can we help?" We met an urgent call to action by working with our partners to source millions of masks, designing and manufacturing millions of face shields, and supporting medical workers and first responders however we could. No period has taught us more about protecting each other's health, and we plan to carry the lessons we're learning with us long into the future.

At Apple, we are pushing this work forward every day, and we're deeply committed to measuring our efforts and improving upon them—day by day and year by year. We do so in the belief that at its best, technology can empower people, enrich their lives, and help everyone participate in the always-urgent work of building a better world.



A handwritten signature in black ink that reads "Tim Cook". The signature is fluid and cursive, with the first name "Tim" and last name "Cook" clearly distinguishable.

Tim Cook
CEO

Our approach

We are committed to demonstrating that business can and should be a force for good. Achieving that takes innovation, collaboration, and a focus on serving others. It also means leading with our [values](#) in the technology we make, the way we make it, and how we care for people and the planet we share. We're always working to leave the world better than we found it, and to create powerful tools that empower others to do the same.

The initiatives described in this report speak to our long-standing commitment to advancing initiatives across Environmental, Social, and Governance (ESG) efforts.

Environmental

We consider our environmental impact in everything we do:

- We're carbon neutral for our own operations, including business travel and employee commute, and are progressing toward an urgent goal to be carbon neutral across our entire business—including the full life cycle of our products—by 2030.
- We're on an ambitious journey to one day make our products using only recycled or renewable materials.
- We design our products to be safe for anyone who assembles, uses, or recycles them—and to be better for the environment.

In all this work, we're partnering with communities and local leaders to make sure our environmental efforts are also a force for equity and justice.



Read more about our work to protect the [Environment](#) (p6)



Social

At Apple, we work every day to put people first:

- We're committed to inclusion and diversity. And we're investing in programs to ensure more positive outcomes for communities of color.
- We have programs and benefits to support the development of all of our team members.
- We continue to prioritize the health and safety of our teams, customers, supplier employees, and communities.
- We engineer privacy and security into everything we make, and we are always raising the bar to protect people's data.
- We design our products and services to be accessible for the widest range of users.
- We find innovative ways to give parents, students, and educators the tools to engage their creativity and explore the world around them, with a specific focus on communities too often denied opportunities.
- We're accelerating social change by investing in communities and organizations that are addressing society's toughest problems.
- We hold ourselves and our suppliers to the highest standards of labor and human rights, health and safety, environmental protections, and ethics.



Read more about our work to support

[Our People](#) (p13)
[Customers](#) (p25)
[Suppliers](#) (p35)
[Communities](#) (p44)

Governance

We embed transparency and accountability at every level of our company:

- Apple's Board and governance structure helps foster principled actions, informed and effective decision-making, and appropriate monitoring of our compliance and performance.
- Apple's Human Rights Policy governs how we treat everyone, including our customers, employees, business partners, and people at every level of our supply chain.
- We're committed to conducting business ethically, honestly, and in full compliance with applicable laws and regulations.



Read more about how we operate

[Our Business](#) (p52)



To support our Prineville, OR data center, we signed a 200-megawatt power purchase agreement for a new wind farm in Oregon—the Montague Wind Power Facility—which entered commercial operation at the end of 2019. It's our largest project to date, producing over 562 million kWh of clean, renewable energy a year.

Environment

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We are committed to creating products that enrich the lives of our customers in a way that protects the earth's resources that we all share. In 2018, we reached our goal of sourcing all electricity for our stores, data centers, and offices from renewable sources. Then in 2020, Apple became carbon neutral for our worldwide operations, including business travel and employee commute. We are now tackling the remainder of our footprint with an ambitious goal to make our products carbon neutral by 2030—from our supply chain to the energy customers use to power our devices.

Our strategy focuses on three interconnected areas: climate change, resources, and smarter chemistry. Our comprehensive carbon footprint informs the work we do to reduce our emissions, including our roadmap to carbon neutrality. Within our resources pillar, we're working to make our products using only recycled and renewable materials and eliminate plastic from our packaging. And we are committed to using safer materials to create better products for those who design, make, use, and recycle them. All the work we do aims to improve environmental health, not just for our customers, suppliers, and employees, but also for broader global communities.

Our work is led by Lisa Jackson, Apple's Vice President of Environment, Policy and Social Initiatives, reporting directly to CEO Tim Cook. The Office of Environment, Policy and Social Initiatives works with teams across Apple to set strategy, engage stakeholders, and communicate progress. Our integrated approach means that decisions about Apple's values, including environment, are reviewed and supported at the highest levels of the company.

Climate change

As climate change increasingly threatens biodiversity and puts people's access to clean air, adequate food, safe drinking water, and homes at risk, we believe we have a responsibility to take urgent and decisive action.

Since April 2020, Apple has been carbon neutral across all of our corporate emissions, including our stores, data centers, and corporate facilities, as well as business travel and employee commuting. We started by investing in clean energy around the world. Since 2018, Apple has sourced 100 percent of its corporate and retail electricity from 100 percent renewable sources.

In 2020, we unveiled an ambitious plan to achieve carbon neutrality for our entire carbon footprint, including our products, by 2030. We plan to reach this goal by reducing our emissions by 75 percent compared to 2015,¹ and by investing in carbon removal solutions for the remaining emissions.

Our 10-year climate roadmap will address Apple's carbon footprint through the following five pillars:

- **Low-carbon design:** We're making products with more recycled materials and working to reduce the amount of energy our devices use.
- **Energy efficiency:** We're using energy more efficiently across retail stores, offices, data centers, and manufacturing sites.
- **Renewable electricity:** We're committed to transitioning our entire manufacturing supply chain to 100 percent renewable electricity generated from solar, wind, and other renewable projects.
- **Direct emissions abatement:** We're innovating and improving the processes in our facilities and supply chain to reduce greenhouse gas emissions.
- **Carbon removal:** We're investing in working forests and ecosystem restoration in ways that respect communities and remove carbon from the atmosphere.



We're leveraging the funds from Apple's €2 billion (about \$2.2 billion) bond issuance in 2019 to help meet our climate neutrality goal. Read about the projects funded over the last year in our [2020 Green Bond Report](#). To date, Apple has issued about \$4.7 billion in green bonds.

Read more about our environmental efforts in our [2021 Environmental Progress Report](#), including information about [Apple's renewable energy projects](#).

Progress toward neutrality

In 2020, we became carbon neutral for our corporate operations. To reach carbon neutrality for the full life cycle of our products by 2030, we've swiftly been deploying innovations at scale—like decarbonizing materials used in our products, rapidly deploying renewable energy across our operations and our supply chain, and launching a first-of-its-kind fund to invest in nature-based carbon removal solutions.

In 2020, Apple's comprehensive carbon footprint was 22.6 million metric tons. We've decreased this footprint by 40 percent since 2015, our baseline year, even as net revenue has increased. In 2020 alone, we avoided more than 15 million metric tons of carbon emissions by using low-carbon materials, driving energy efficiency, and switching to clean energy. Since 2011, our Scope 1 and 2 emissions have declined by 73 percent, and we had zero Scope 2 electricity-related emissions for the second year in a row.

Low-carbon design

We believe that well-designed products have a lower environmental footprint. Our carbon footprint helps us identify opportunities to reduce the carbon intensity of our product designs through

material efficiency, use of low-carbon materials, and product energy efficiency. For example, several of our products use 100 percent recycled aluminum in their enclosures, helping reduce our carbon emissions associated with aluminum by 72 percent since 2015.

Product energy use accounts for 19 percent of our carbon footprint, so we've set aggressive targets to reduce this. By addressing this in the earliest design phases, the average product energy use across all our major product lines has declined by more than 70 percent since 2008.² And in fiscal year 2020, 100 percent of our eligible products received an ENERGY STAR rating for superior energy efficiency.³

Energy efficiency

Our energy efficiency goals extend well beyond our products. We're focused on using less energy across our operations and in our supply chain. At our facilities, we track energy use and explore ways to save energy: renovating and retrofitting older locations, designing new facilities with energy efficiency in mind, and working with local utilities on energy efficiency strategies.

40%

decrease in emissions across our entire value chain since 2015.

100%

renewable energy sourced for all Apple facilities.

110+

suppliers in 24 countries committed to **100 percent** renewable electricity for Apple production.



Read more about our efforts to tackle climate change, including risks and opportunities, in our [2021 Environmental Progress Report](#) and our [CDP Climate Change response](#).



In total, Apple-created renewable energy account for 90 percent of the renewable electricity our facilities use, and include wind projects in Viborg, Denmark, and Prineville, Oregon (pictured above).

To address emissions from manufacturing, which account for approximately 70 percent of our carbon footprint, we've continued to scale up our Supplier Energy Efficiency Program. This program helps suppliers that use significant amounts of energy to reduce their energy use. In 2020, more than 900,000 annualized metric tons of supply chain carbon emissions were avoided, a 44 percent improvement over 2019.⁴

Renewable electricity

Our stores, data centers, and offices currently source 100 percent renewable energy, which reduces emissions while also offering greater control over electricity supply and reducing exposure to cost fluctuations.

And we've made tremendous progress toward our goal of transitioning our entire manufacturing supply chain to 100 percent renewable electricity by 2030. Launched in 2015, our Supplier Clean Energy Program has already brought over 4 gigawatts of additional renewable energy online to our supply chain, with additional supplier commitments bringing the total to nearly 8 gigawatts. The renewable energy already online generated 11.4 million megawatt-hours of clean energy in fiscal year 2020, avoiding 8.6 million metric tons of carbon emissions in our supply chain.

Direct emissions abatement

To address the emissions associated with our materials and manufacturing processes, we seek technological solutions through emissions abatement or switching to low-carbon fuel options. For example, we have helped fund research and development for ELYSIS, a technology that eliminates direct GHG emissions from aluminum smelting. And we've started to use ELYSIS aluminum in production of the 16-inch MacBook Pro.

Many components of Apple products, including integrated circuit chips and display panels, rely on manufacturing processes that use fluorinated gases with a high global warming potential. We're partnering with key manufacturers to optimize manufacturing processes, reduce the use of these gases, and deploy abatement technologies to limit any emissions.

The Impact Accelerator

To ensure that our work to protect the planet also helps advance equity, Apple has launched an Impact Accelerator for Black- and Brown-owned businesses.⁵ The Accelerator expands access to opportunity in sectors like renewable energy, carbon removal, and recycling innovation. We are making investments in these sectors to help fight systemic barriers impacting communities that are disproportionately affected by environmental issues like climate change. With customized training, access to Apple experts, and an expanding alumni community, our Impact Accelerator is tailored to support companies as they pursue their next stage of development.

"Systemic racism and climate change are not separate issues, and they will not abide separate solutions."

Lisa Jackson

Vice President of Environment, Policy and Social Initiatives

The Impact Accelerator is just one of many efforts within Apple's \$100 million Racial Equity and Justice Initiative, which focuses on education, economic equality, and criminal justice reform in the United States. With our partners, we aim to redefine business as usual and drive progress toward a more equitable future.



Fifteen Black- and Brown-owned green technology and clean energy businesses are joining Apple's inaugural Impact Accelerator, part of the company's Racial Equity and Justice Initiative.

Carbon removal

To address the emissions we can't avoid, we need to take active steps to remove carbon dioxide (CO₂) from the atmosphere. We invest in nature-based solutions that protect and restore forests, wetlands, and grasslands, which store carbon drawn from the atmosphere. Partnering with Conservation International and Goldman Sachs, Apple will invest up to \$200 million through the Restore Fund, which aims to remove more than 1 million metric tons of CO₂ per year in its pilot phase. The Restore Fund will align with international standards to ensure that the carbon stored in forests is being conservatively and accurately quantified and is permanently locked out of the atmosphere. We are also closely engaging with local and indigenous communities to respect and protect their rights and livelihoods.

Climate scenario analysis

Looking to the future, we conducted a climate scenario analysis to better understand the potential effects of climate change on Apple's business. To align with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, we considered a range of scenarios, including one well below 2° Celsius. The analysis highlighted how our renewable energy program, carbon neutrality goals, and emissions reduction target aligned with the Science Based Targets initiative (SBTi) could improve our resiliency to the impacts of climate change.

65%

less plastic in packaging since 2015—progressing toward our goal to eliminate plastics from packaging by 2025.

10.4M

devices refurbished for new users in fiscal year 2020.⁶

39,000

metric tons of e-waste sent to recycling in fiscal year 2020.

Resources

Our efforts to conserve resources are directly connected to the creation of our products, and span both our own operations and those of our suppliers. We focus on three main areas:

- **Materials:** Transition to only recycled or renewable materials in our products and packaging, and maximize material efficiency, product longevity, and recovery.
- **Water stewardship:** Reduce freshwater use, transition to alternative sources, improve the quality of the water we discharge, and protect shared water resources.
- **Zero waste to landfill:** Minimize overall waste generated and eliminate waste sent to landfill from key manufacturing facilities, corporate offices, data centers, and retail stores.

Materials

We're using three different levers to reduce our footprint and achieve circularity: sourcing and efficiency; product longevity; and product end-of-life.

Sourcing and efficiency

Our goal is to use only recycled and renewable materials in our products and packaging, and to use these materials more efficiently. And we source materials responsibly, whether from virgin, recycled, or renewable sources. In fiscal year 2020, we released seven products with more than 20 percent recycled content. The MacBook Air with Retina display (2020) contains 40 percent of material from recycled sources, including 100 percent recycled aluminum in the enclosure. And in October 2020, we introduced iPhone 12 and iPhone 12 Pro, the first Apple products made with 99 percent recycled tungsten and 98 percent recycled rare earth elements.

Product longevity

We want to make the most of the materials we use through designing long-lasting products. We design durable hardware, leverage software updates to extend functionality, provide convenient access to repair services, refurbish devices for their next user, and reuse parts that still have more to give.



For more information about the responsible sourcing of the materials used in our products, read Apple's People and Environment in Our Supply Chain report in our Conflict Minerals Report on our [Supplier Responsibility](#) website.

Product end-of-life

We are enhancing product collection and recycling innovation, so we and others can use old devices as raw material sources. We continue to provide product take-back and recycling collection programs in 99 percent of the countries where we sell products. And we've continued to expand methods for recovering materials from our products. Daisy, a robot designed to disassemble iPhone devices, has now been joined by Dave, which dismantles Taptic Engines from iPhone to enable the recovery of materials like rare earth magnets, tungsten, and steel. And in Austin, Texas, we've launched a Material Recovery Lab, where our team works on developing better, more efficient recycling technologies.

Water stewardship

Water is an essential shared resource and vital to our operations. To address the water footprint of our corporate and suppliers' sites, we aim to use water efficiently, transition from freshwater to alternative sources, discharge used water responsibly, and pursue water stewardship to keep watersheds healthy.

In fiscal year 2020, Apple facilities used 1.29 billion gallons of water, about 54 percent of which we discharged back into the watershed.⁷ Freshwater comprised about 90 percent of our corporate water use, with the balance made up from recycled water and other alternative sources.

We saved 111 million gallons of freshwater in fiscal year 2020 due to efficiency projects implemented at Apple facilities since 2017.⁸ We prioritize those areas with high water risk, where approximately 46 percent of our corporate water use occurs. In addition, our Prineville, Oregon, data center became the first Apple-owned or operated site—and the first data center worldwide—to achieve certification by the Alliance for Water Stewardship (AWS).



Dianshan Lake is located in the Kunshan watershed, where four Apple suppliers have earned Alliance for Water Stewardship certifications.

Recognizing that far more water is used within our supply chain, we partner with our suppliers to identify and implement water-saving improvements through our supplier Clean Water program. We encourage performance that goes far beyond compliance—to date, 13 supplier facilities have received AWS certification, of which 10 were Platinum status, the highest recognition level.

Zero waste

We're working toward waste-free operations in which we rely on recyclable or reusable materials and send nothing to landfill. Our Prineville data center, for example, is the first Apple facility to receive TRUE certification at the Platinum level, meaning more than 90 percent of its waste is sent to recycling or composting. Such efforts helped limit the amount of waste sent to landfill to about 12,000 metric tons for our global operations.

Helping our suppliers eliminate waste from manufacturing is also essential to realizing our zero waste goals. In 2015, we launched our supplier Zero Waste Program, through which more than 165 participating facilities can access guidance and tools to improve waste management. Suppliers diverted over 400,000 metric tons of waste from landfill in 2020, bringing the total to 1.65 million metric tons diverted since 2015.

41B

gallons of water saved through our supplier Clean Water program since 2013.

100%

All established final assembly sites are now Zero Waste certified.⁹



Read more about our efforts to conserve resources in our [2021 Environmental Progress Report](#).

Smarter chemistry

We're committed to using safer materials to create safer products.

Our smarter chemistry strategy covers three areas:

- **Mapping and engagement:** Engage our supply chain partners to build a comprehensive inventory of chemicals used in our products and go beyond regulatory compliance.
- **Assessment:** Assess the potential human health and environmental risks of chemicals to evaluate compliance with our requirements—including our Regulated Substances Specification—and inform product design.
- **Innovation:** Exceed regional requirements by innovating safer alternatives and improving how we and our suppliers manage potential risks of chemicals.

Mapping and engagement

Our commitment to smarter chemistry starts with a deep understanding of the materials and chemistries used to make our products. In 2016, we launched the Full Material Disclosure program to catalog and map every chemical our products contain. Each supplier is required to report the materials used to manufacture Apple products, using our library of over 40,000 materials to accurately identify each material.

We prioritize the health and safety of the people who make our products. Our Supplier Code of Conduct and Supplier Responsibility Standards set clear workplace safety requirements, and our Chemical Safety Disclosure program advances disclosure around the chemistries used in manufacturing processes. We have identified 14,000 unique chemicals and applications, enabling us to remove those that don't meet our standards.

Assessment

With our products, we aim to make the best chemical and material choices to protect both personal and environmental health. Our Regulated Substances Specification sets standards for the chemicals in our products and manufacturing processes, which exceed many regional regulatory requirements.

Apple's Environmental Testing Lab performs chemical analyses to evaluate the safety of our products and materials and to monitor compliance with the specifications. Our assessment system helps ensure that only materials that meet our stringent requirements can be used in Apple products. Each year, we conduct more than 100 assessments on chemicals before they are used in our manufacturing processes.

Innovation

Our efforts to map and assess the chemicals within our supply chain ultimately fuel innovations at Apple and with our suppliers. We use toxicology data at each point in the product life cycle to seek out and develop safer chemistries, continually improving the overall safety of our products and processes.

Since the late 1990s, we have diligently identified and removed potentially harmful chemicals from our products. This has required developing alternatives by creating safer compounds to replace potentially harmful chemistries or replacing components with alternatives that meet our safety standards.

We're also partnering with nongovernmental organizations (NGOs) to cascade our materials data throughout the electronics industry. Through ChemFORWARD, we are able to share our list of safer cleaners and degreasers with companies beyond our supply chain and outside our industry. We've also worked with the Clean Electronics Production Network to develop the Process Chemicals Data Collection Tool, which supports data collection on process chemicals used in the electronics industry.

100%

of supplier final assembly sites use safer cleaners.

1400+

new materials evaluated for safety.



Our restrictions on potentially harmful chemicals are outlined in the [Apple Regulated Substances Specification](#) and in our [Restricted Chemicals for Prolonged Skin Contact Materials](#) list.

At Apple, we're committed to supporting our team members at work and beyond.

Our People

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We have a talented, motivated, and dedicated team at Apple, and we're committed to supporting the development of all our team members. We're continuously building on our strong culture, creating an environment where everyone can be their whole selves and do the best work of their lives.

In a year that brought challenges and hardship to so many, we've also ensured that our teams around the world receive the support they need to care for their health, safety, and physical and mental well-being.

Inclusion and diversity

Across Apple, we're strengthening our long-standing commitment to making our company more inclusive and diverse. We're committed to hiring inclusively, providing training and development opportunities, fostering an inclusive culture, and ensuring equitable pay for all employees. And we're continuing to focus on increasing diverse representation at every level of the company to help Apple become an even better reflection of the world we live in.

Our work here doesn't stop at our own doors. With efforts like our Racial Equity and Justice Initiative (REJI), we're working to expand access to education, support criminal justice reform, and advance economic opportunities for underrepresented communities.

Inclusive hiring and diverse representation

We're making progress toward building an Apple community that represents the diverse and ever-changing world around us. Since 2014, the number of employees from underrepresented communities (URCs) has increased by 64 percent in the U.S. and the number of female employees worldwide has grown more than 70 percent.

To build upon this growth, we're creating diverse interview panels and candidate slates to ensure that diversity is reflected at every stage of the hiring process. And we're focusing on robust diversity recruiting efforts for R&D and leadership to accelerate progress in hiring across technical, engineering, and leadership roles. In 2020, 43 percent of open leadership roles were filled by people from underrepresented communities in the U.S., and 37 percent of open leadership roles were filled by women globally.

We're also expanding our diversity outreach efforts through organizations like Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs) that serve and engage talent from underrepresented communities. Since 2014, the number of Hispanic/Latinx employees in the U.S. has grown by more than 80 percent with a 90 percent increase in leadership, while the number of Black employees in the U.S. has grown by more than 50 percent with a 60 percent increase in leadership.

Deirdre O'Brien is Apple's Senior Vice President of Retail + People, reporting to CEO Tim Cook. In her role leading the People team, Deirdre works to help Apple connect with, develop, and care for its team members—and to help everyone do the best work of their lives. As the leader of Apple's retail and online teams, Deirdre supports their work to enrich the lives of millions of Apple customers every year.

64%

increase in U.S. employees from underrepresented communities since 2014.

70%

increase in global population of women at Apple since 2014.



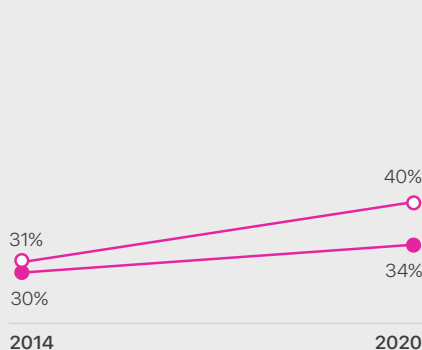
We're making progress and we're holding ourselves accountable to do even more. To learn more and to see our latest diversity figures, visit apple.com/diversity.¹⁰

Where we stand today

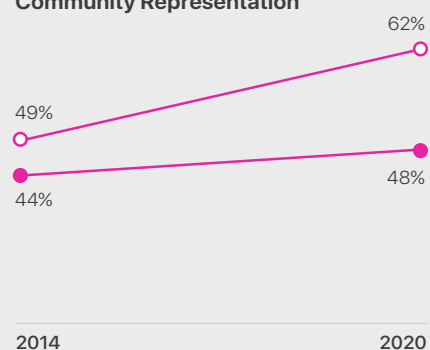
We have over 160,000 talented employees across the world. And we are proud that when people join Apple, they find fulfillment for many years. That also means increasing overall representation takes time.

Every hiring decision is made one role, and one person, at a time. We are taking meaningful actions for more diverse representation across every part of the business. Because just 1 percent of over a hundred thousand represents change for over a thousand people.

Global Female Representation



U.S. Underrepresented Community Representation



○ Under 30 ● Overall

Training and resources

Apple team members have access to career development programs, ongoing inclusion and diversity education, and support throughout their career journey. From new-hire orientation to talent planning and mentorship, we're always finding new ways to help team members continue to learn, thrive, and advance in their careers in an inclusive environment.

All of our team members are required to complete unconscious bias and inclusion training, and can access expert-led courses on race, justice, allyship, and more. In addition, all our managers are required to take inclusive leadership training, and inclusion and diversity measures are built into our annual review process for leaders across Apple.

Community and connection

For more than 30 years, Apple team members have found community and connection in our Diversity Network Associations (DNAs). Rooted in the celebration and amplification of culturally underrepresented communities, DNAs are employee groups that create spaces for belonging, learning, and growing inclusivity, diversity, and equity efforts.

As of August 2021, DNA membership has more than doubled since 2018, with more than 54,000 employees. Our DNA communities include Accessibility@Apple, Amigos@Apple, Apple Veterans Association, Asian Pacific@Apple, Black@Apple, Indigenous@Apple, Pride@Apple, South Asian@Apple, and Women@Apple, as well as a range of faith-based and cultural groups. Throughout the year, to deepen connection and understanding, DNAs regularly lead celebrations, events, and educational sessions that are open to everyone across the company.

"Inclusion and diversity are cornerstones of the global Apple community. We're proud of the foundation we've built, and we're clear-eyed about the challenges that remain. Together, we're committed to continuing this journey with humility and resolve."

Barbara Whye

Vice President of Inclusion & Diversity

160,000 hrs

In 2020, team members completed nearly 160,000 hours of learning to create more inclusive work environments.

Supporting our people

From their first day, Apple team members have the resources and opportunities to build new skill sets, pursue new passions, and feel supported and cared for at work and beyond.

Growth and development

Team members across Apple have ongoing opportunities to learn and grow through challenging work, collaboration with other experts, and ongoing support. In 2020, we invested nearly \$200 million in training and programs to support our teams' growth and development.

- **Apple University:** Apple University began in 2010 with a simple mission—to foster understanding and critical thinking about Apple's culture, organization, and values. To date, more than 90 percent of current executives and managers have participated in a variety of individual, manager, and senior leader classes.

- **Growth and development framework:** We provide our teams with individual growth and development plans to shape their careers and identify their goals, including planning worksheets, manager toolkits, and a dedicated internal web page.
- **Management and leadership:** Apple helps our teams progress to leadership, creating development pathways that enable individuals to learn, improve, and empower their colleagues to do the best work of their lives.
- **Professional growth:** We offer a variety of educational seminars, external speakers, guest creative performances, and comprehensive resources to support professional growth. Our Educational Assistance Program also offers helpful resources and tuition reimbursement for team members to continue their education.



Read the [Harvard Business Review article](#) about how Apple's distinctive organizational model is key to inspiring innovation.



We provide our teams with individual growth and development plans to help shape their careers.

- **Career experience:** Career experiences provide team members from our stores, retail customer care, and AppleCare teams the opportunity to spend time on a corporate career rotation. Participants build new skills, while host teams benefit from their team members' new perspectives, talent, and passion. Participation has grown by 30 percent year on year since it began in 2015, and in fiscal year 2021, thousands of upcoming opportunities are planned across 80 percent of our lines of business.
- **Coaching at Apple:** This training program for retail leaders in stores, retail customer care, and corporate retail teams provides a consistent and effective model for improving employee engagement and performance. More than 110 senior Apple Store leaders and People team leaders are certified to deliver Coaching at Apple, and more than 4200 have been trained in the content.
- **Internal mobility:** We encourage our teams to discover new opportunities at Apple that spark their interest and draw on their skills. We provide an internal career site, detailed guidance on exploring new roles, and we encourage discussions with managers so they can support their team members' growth at Apple.

Performance reviews

Our annual performance review process offers team members the opportunity to have meaningful conversations with their managers about their performance, growth, and development. Reviews include a self-assessment and feedback from peers and their manager. It's also a chance to reflect on the contribution each person makes to Apple's long-standing commitment to inclusion and diversity.

Benefits

We recognize that our people thrive when they have the resources to meet their needs and the time and support to succeed in their professional and personal lives. We provide a host of benefits to help our teams live healthier, more fulfilled, and happier lives at work and beyond.¹¹

Physical and mental well-being

Apple provides employees a wide variety of health-related benefits, including:

- Physical and mental health coverage that also extends to spouses and domestic partners
- Virtual and onsite wellness visits for employees and eligible dependents
- Free, confidential counseling for employees and their dependents¹²

- Reproductive health services covering contraception, pregnancy, and menopause, as well as prenatal care, pregnancy and delivery, and postnatal care¹³
- Expert second opinion resources to help employees and their family members make informed healthcare decisions
- A comprehensive mental health and well-being hub where employees can find events, apps, and other resources
- Month-long wellness events for team members across Apple to support one another and build healthier habits

Our health plans are designed to support the various life stages of our employees and their families. They are transgender-inclusive, where legally and plan-allowed, and support routine care, therapies, and other medically necessary surgeries.

Life and family

Apple also provides a host of benefits to support our employees in their personal and family life, including:

- Retirement programs to help employees with their future financial needs, such as 401k matching contributions in the U.S. and local retirement plans for employees outside of the U.S.
- Referrals and resources for childcare, before- and after-school programs, programs for children with special needs, and more
- Consultations and referrals to support employees caring for an elderly family member
- Adoption, surrogacy, and fertility services
- Financial coaching services
- Tuition reimbursement
- Legal services for adoption, child support, housing, wills, identity theft, and more

Coming back to work after the arrival of a child can be a big adjustment for employees, so to smooth the transition period following the arrival of a new family member, under our gradual return-to-work program, employees can choose to return half-time at full pay for four weeks—whether they're welcoming a child through birth, adoption, or other covered means.

Time away

Taking the time to recharge is an important part of employee health and well-being. We provide a wide variety of time-away options for our employees, including:

- Vacation
- Paid sick time and medical leave for serious health conditions
- Pregnancy leave and New Parent Leave
- Leave for bereavement or to care for a sick family member
- Time off for voting, jury duty, and other civil obligations
- Company holidays throughout the year

Product discounts

Apple's Employee Purchase Plan offers special pricing on most Apple products. We offer substantial discounts on hardware, software, and accessories for employees, families, and friends—as well as an additional credit that can be used to purchase a Mac, iPad, or unlocked iPhone once every two years.

100%

At Apple, women and men earn the same when engaging in similar work with comparable experience and performance.

Compensation

At Apple, we believe that our compensation should not only be competitive; it should be equitable and enable all employees to share in the company's success as shareholders of Apple. We're committed to being a leader in pay equity, using pay gap metrics to measure our progress on representation, providing all employees annual opportunities for stock ownership in the company, and paying a highly competitive minimum wage. And we hold our leaders accountable by incorporating Apple values and key community initiatives into our executive short-term incentive compensation.

Pay equity

Apple has a firm and long-standing commitment to pay equity. Since 2017, we have achieved pay equity globally: In every country where we operate, team members of all genders earn the same when engaging in similar work with comparable experience and performance. In the United States, the same is true for employees of all race and ethnicities.

- **Annual pay equity review:** To maintain pay equity, we engage a third party to independently evaluate compensation across all of Apple using statistical modeling. This rigorous review considers annual total compensation, including base salary, bonuses, and Restricted Stock Units (RSUs), as well as a variety of data related to pay, including job level, location, performance ratings, and tenure. We also regularly conduct comprehensive job title reviews to ensure employees are in the correct job title, an important factor in determining pay.
- **Annual compensation planning:** During our annual compensation planning process, the People team uses analytics to assess promotion rates, performance ratings distribution, and pay metrics for women compared to men and, in the U.S., for underrepresented groups compared to non-underrepresented groups.
- **Global compensation history policy:** We don't ask candidates for salary history during the recruiting process, which has been our policy globally since 2019. To help ensure internal equity, our recruiters develop offers of employment based on the compensation of current Apple employees in similar roles using a tool developed specifically for this purpose.

Apple stock ownership

In 2015, we introduced our Stock Ownership Program, which was designed to reach employees who were not previously eligible for stock awards, including all of our retail and AppleCare teams. By the end of 2021, over \$1 billion of RSU grants will have been awarded under this program, and those shares today have a value of over \$3 billion.¹⁴ Apple is one of only a few companies in the S&P 500 where all employees are eligible for equity awards.

In most countries, employees also get discounts when purchasing Apple stock by participating in the Employee Stock Purchase Plan (ESPP). Currently, over 80 percent of eligible employees participate in the ESPP.¹⁵

Minimum wage

Apple is committed to paying employees a highly competitive wage in every location where we operate. In addition to the stock programs and wide range of benefits we provide, our minimum hourly wage for employees leads our peers across industries.

\$1 billion

By the end of 2021, over \$1 billion of RSU grants will have been awarded under Apple's Stock Ownership Program, and those shares today have a value of over \$3 billion.¹⁴



In addition to the stock programs and wide range of benefits we provide, Apple is committed to paying employees a highly competitive wage in every location where we operate.

Engagement

We believe that open and honest communication among team members, managers, and leadership fosters an open, collaborative work environment where everyone can participate, develop, and thrive. Team members are encouraged to come to their manager with questions, feedback, or concerns. Our goal is to listen and learn—and to use those lessons to build an even better work environment for all.

We regularly conduct surveys that gauge sentiment in areas like career development, manager performance, and inclusivity. Teams and leaders are encouraged to engage in meaningful dialogue informed by the survey results, and to create action plans that are shared, along with the survey results, with Apple's leadership. Across all our teams, we're always building on our long-standing commitment to an environment where people at every level of our company feel connected and supported.



At Apple, we seek to foster an open, collaborative work environment where everyone can participate, develop, and thrive.

Workplace practices and policies

Apple's culture is built on treating everyone with dignity and respect. This focus shapes how our colleagues engage with one another and with our customers and partners around the world.

Harassment and discrimination

We are committed to providing a workplace free of harassment or discrimination based on race, color, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status, caste, or other legally protected characteristic. We do not tolerate discrimination or harassment of our employees or those with whom we have a business, service, or professional relationship (including customers), nor do we tolerate workplace violence of any kind. Retaliation against anyone for complaining about harassment or discrimination, or for participating in the investigation of a complaint of harassment or discrimination is against Apple policy and will not be tolerated at Apple.

Equal employment opportunity

Apple is an equal opportunity employer committed to inclusion and diversity. We take steps to ensure equal opportunity for all applicants and employees, without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status, caste, or other legally protected characteristic. We provide reasonable accommodations to applicants and employees with physical and mental disabilities.

Voluntary decision review

Apple's voluntary decision review enables employees to have an employment decision reevaluated. This is designed to promote fairness and impartiality, in line with our values and policies. The reviewer will consider any new information that indicates the decision may not have been in accordance with our policies and guidelines.

Apple's COVID-19 response



A healthcare worker in Zambia wears an Apple-produced face shield.

When the pandemic struck, the first question we asked ourselves was, “How can we help?” Our teams answered an urgent call to action by coming together to design and manufacture face shields, helping to source and distribute millions of masks around the world, and making contributions to support medical workers on the front lines and those hardest hit by the pandemic. As the world continues to grapple with COVID-19, we’re committed to innovating, to giving back, and to working with our neighbors to protect people’s health.

Protecting each other’s health

At every stage of the pandemic, our first priority has always been the health of our teams, customers, and communities. That meant being one of the first companies to close our offices and retail stores, and finding innovative ways to connect with colleagues and customers virtually. Apple continued to pay our teams during temporary store and

office closures, expanded our paid leave policies, provided team members with face coverings and PPE, and enhanced our policies and procedures for a safe work environment—both in the office and in-store.

To keep our teams informed, we deployed comprehensive resources with up-to-date COVID-19 information, including a dedicated platform for teams returning to the office. We also provided free testing to eligible employees and created our own face masks for the safety of employees—without tapping into the medical supply chain. COVID-19 case support, implemented for all team members, included return-to-work guidance and contact tracing, with the utmost regard for employee privacy.

We continue to offer special sick leave for employees with possible COVID-19 symptoms, as well as comprehensive health coverage.

Innovating to support our customers

Despite all of the pandemic’s challenges, we brought our most powerful generation of hardware, software, and services into customers’ hands, helping them stay informed, connected, and entertained.

We also tailored our services to promote easy access to trusted information on COVID-19: launching a dedicated section on Apple News; prioritizing visibility of essential services locations—including COVID-19 testing and vaccination locations—on Apple Maps; offering a curated collection of telehealth apps on the App Store; and leveraging Siri to provide the latest COVID-19 guidance.

To meet the extraordinary challenges of virtual education, we delivered new content and services for students, parents, and teachers to foster creativity and learning

in a digital environment. We worked with mobile carriers and school administrators to deliver iPad devices with cellular support for students in need. With our Apple Card Customer Assistance Program, we also offered customers the option to skip their monthly payments without incurring interest. Across many of our stores, we were able to serve our customers' needs through contactless pickup, express storefronts, and new online support. In store, mandatory face masks, physical distancing, temperature checks, and deep-cleaning procedures were put in place to keep our teams and customers safe. Our response to COVID-19 is still ongoing, and we are committed to implementing health protocols and adjusting store operations as required based on available data and guidance from health officials.

Helping our suppliers adapt

From the early days of the pandemic, we worked hand in hand with our suppliers to deploy a range of protections suited to their local circumstances, which included measures such as health screenings, limiting density, and ensuring strict adherence to social distancing

in their facilities. We strengthened our incident reporting mechanisms to more clearly include the reporting of any infectious disease incidents to Apple. This has allowed us to track COVID-19 cases at supplier facilities around the world, from initial reporting to recovery, and to engage with each of these sites individually to confirm they have the correct protocols in place to keep their employees safe and healthy.

We have worked closely with suppliers to help support their ability to pay their hourly workers. And we have further supported our business partners by accelerating our payments to suppliers and extending payment and credit terms for our resellers. We also partnered with NGOs to help further support people deeper in our supply chain through an unprecedented time, particularly those from vulnerable groups like migrant workers and mining communities.

Giving back to our communities

We also made significant contributions toward relief efforts supporting healthcare professionals, first responders, and impacted communities worldwide. This included over

\$120 million in donations toward organizations offering COVID-19 relief,¹⁶ sourcing more than 30 million masks and 10 million custom-built face shields, and matching our employees' charitable donations. With \$10 million of support from Apple's Advanced Manufacturing Fund, COPAN Diagnostics produced over 20 million¹⁷ COVID-19 sample collection kits for hospitals across the United States.

In partnership with the White House Coronavirus Task Force and the Centers for Disease Control and Prevention (CDC), we released an app and website that guided Americans through a series of questions about their health and exposure to determine if they should seek care for COVID-19 symptoms, providing CDC recommendations on next steps including guidance on social distancing and self-isolating, how to closely monitor symptoms, recommendations on testing, and when to contact a medical provider. And we collaborated with Google to create a new exposure notification system for global governments and health agencies, with user privacy and security central to its design, to help fight the pandemic.



With support from Apple's Advanced Manufacturing Fund, COPAN Diagnostics has shipped more than 20 million COVID-19 test kits to medical facilities across the country.

Health and safety at Apple

We're dedicated to protecting our team members and our customers everywhere we operate—a responsibility COVID-19 has brought into even greater focus. At every stage of the pandemic, we make decisions based on the latest local data and public health guidance, and we share lessons across our Environment, Health, and Safety (EHS) teams globally so we can continuously improve our safety programs.

Protecting our people

We're always working hard to ensure our employees and contractors are safe no matter where they are when they're conducting business for Apple. We abide by EHS requirements in every country where we operate, to ensure the safety and well-being of our global teams.

Managing work-related hazards and risks

To ensure the safety of our employees and customers, we put procedures in place to identify the potential risks associated with workplace activities and to mitigate possible hazards. We support and protect employees in lower hazard spaces, and put special programs in place for smaller groups working in higher hazard environments, including chemical management, laser safety, equipment and machinery safety, hazardous materials management, and electrical safety. Employees can request to have their workspaces individually inspected to identify hazards and controls, including ergonomics evaluations.

Our EHS teams identify and provide appropriate personal protective equipment (PPE) for specific hazards, which is provided to employees at no cost and with training on correct use. Additionally, EHS conducts mandatory health checks for employees where they are required.

We invest in new technologies and talent to continually manage risks across our operations, including manufacturing in Cork, Ireland. These standards, programs, trainings, procedures, and other safeguards are managed by trained EHS professionals, and where required, we also translate EHS procedures into local languages for our employees.

Risks identified from incidents, injuries, and non-routine events are addressed immediately for corrective action, and integrated into future program development and training. Lessons learned are routinely communicated across Apple's EHS team and potentially affected operations, and are used to inform updates to existing policies and procedures if necessary.

Employees and managers can report incidents, near-misses, and observations—including newly identified hazards and risks—through an internal iOS app. Incident responses are addressed by Apple's EHS team through a consistent process that connects employees with care and support while identifying corrective actions where appropriate to prevent future occurrences.



Read more about our hazardous waste and chemical safety procedures in our [2021 Environmental Progress Report](#).

Emergency preparedness and response

Beyond COVID-19, we supported the response to dozens of crisis events in 2020, including fires, severe weather, and civil unrest. Our responses focused on ensuring the safety of our employees and business continuity.

All team members can sign up for Apple's Emergency Alert system, enabling them to be notified of local emergencies and to indicate whether they are safe or need help. Disaster supplies are available at our facilities, depending on risk and location.

Facility Response and Recovery Plans provide a comprehensive approach to the safety and support of our employees while minimizing business interruption, and site-specific Emergency Response Plans have been implemented globally. These plans are communicated to all employees, and trainings and drills are held at least annually. And our employees are trained in emergency response, allowing them to react quickly while supporting the safety of our team members and customers.

EHS management systems

To provide a safe environment to our teams, our EHS programs are built to share information about risks, requirements, and expectations for all employees.

Our EHS Policy outlines our commitment to workplace safety and environmental stewardship, and establishes the principles that integrate effective EHS practices into all aspects of our business. The EHS policy is communicated through mandatory training for all new employees and through our internal EHS website.

Apple's EHS leadership team, including Apple's EHS director, is responsible for establishing priorities, determining annual work plans, and assigning resources to execute improvement actions.

5000+

employees trained as first aiders and emergency response team members globally.



Apple's EHS teams follow local health guidelines and have expanded safety protocols in stores during COVID-19 to protect the health of team members and customers.

Blind surfer, Scott Leason, enjoys the independence that Apple technology, including features like VoiceOver, helps enable. At Apple, we believe accessibility is a human right, so we design our products and services with everyone in mind.



Customers

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At Apple, our focus is on creating the world's best products that are a force for good in our customers' lives. It's why we're constantly innovating to protect people's privacy, empowering them to learn more and to live healthier, and designing our technology to be accessible for everyone. From the products and services we create to how we share them with the world, we imbue our technology with the values that define us.

Delivering exceptional products that enrich the lives of our customers is core to Apple's business. That's why the responsibility for integrating privacy, accessibility, education, and health features into our products cuts across many teams, including Hardware Engineering, Software Engineering, Hardware Technologies, and Environment, Policy and Social Initiatives.

Privacy

At Apple, we believe privacy is a fundamental human right, and we're constantly innovating to give users more transparency and control over their data. It's why we set the industry standard for minimizing data collection and processing a user's data on-device, and build industry-leading transparency and controls into our technology.

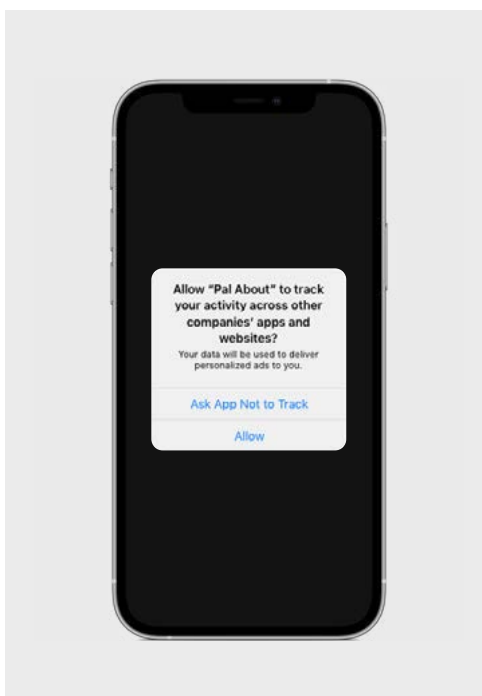
Hand in hand with the privacy of our users are our commitments to free expression and access to information. Our products and services help our customers learn, express their creativity, exercise their ingenuity, communicate privately and securely, and share information globally, whether it be by text message, audio, or sign language over FaceTime video.

Designed for privacy

Our products and services are built with innovative privacy technologies and techniques designed to minimize how much of your data Apple—or anyone else—can access. They contain features designed and implemented over decades to protect customers' privacy and give them control over their information.

Safari was the first browser to block third-party cookies by default as far back as 2005, and more recently, Safari added Intelligent Tracking Prevention to further limit tracking while still enabling websites to function normally. Random identifiers ensure that a customer's use of Maps isn't associated with their Apple ID, and iMessage and FaceTime are end-to-end encrypted, preventing anyone, including Apple, from eavesdropping on user conversations.

Throughout the App Store ecosystem, we continue to add innovative new features that advance user privacy even further. Privacy Nutrition Labels require developers, including Apple, to report their data collection and privacy practices. And App Tracking Transparency requires developers to obtain a user's permission to track their data across apps or websites owned by other companies.



A new App Tracking Transparency feature across iOS, iPadOS, and tvOS requires apps to get the user's permission before tracking their data across apps or websites owned by other companies.

Apple's Privacy Policy ensures that privacy remains a top priority in all that we do. We respect users' ability to know, access, change, transfer, restrict, and delete personal data, and we strive to collect the minimum amount of data necessary to power our products and services. Customers control what information is shared, where it's shared, and when it is backed up. We do not provide user information to any third parties without a clear legal basis, and we publish a Transparency Report detailing government requests for customer data and app removal.

Apple is committed to delivering advertising and other services in a way that respects user privacy. We do not track user information across third-party apps or websites for the purposes of advertising, or do business with data brokers.

To continue raising awareness and educating people on how to protect their personal information, on Data Privacy Day in January 2021, we shared a report that illustrates how companies track user data across websites and apps. And in June 2021, we shared another report exploring how Apple's security layers and the App Review process protect users and keep them in control of their data.

Privacy and security on the App Store

To meet the highest standards for privacy, security, and content, all the apps in our App Store agree to comply with our App Store Review Guidelines. These provide developers with clear and transparent guidance on safety, performance, business, design, and legal issues, including appeal rights. The guidelines help ensure that the apps offered on the App Store are safe, provide a good user experience, adhere to our rules on user privacy, and secure devices from malware and threats.

Privacy governance

To keep privacy at the center of our work, we maintain rigorous privacy standards for both customer and employee data. Our Chief Privacy Officer reports to Apple's General Counsel who chairs Apple's Privacy Steering Committee. The Committee sets privacy standards for teams across Apple and addresses or escalates privacy compliance issues. Its members include Apple's Senior Vice President of Machine Learning and AI Strategy, and a cross-functional group of senior representatives from across the business.

The Audit and Finance Committee of the Board of Directors regularly reviews Apple's privacy and data security risks, and discusses them with management. The Committee reviews reports on privacy and data security matters, including updates on Apple's privacy program, risk management, and relevant legislative, regulatory, and technical developments.

Privacy and security training

We communicate privacy and security guidelines with employees and strictly enforce safeguards across the company. All employees take annual training on business conduct, of which privacy is an essential component. Employees with access to customer data and personal information are required to undergo additional privacy and security training. For more information, visit Apple's [Ethics and Compliance](#) website.

Privacy Impact Assessments

As part of our General Data Protection Regulation (GDPR) and human rights work, we undertake Privacy Impact Assessments (PIAs) of our major products and services. These assessments also consider decision-making that relies on algorithmic systems and the impact such decisions have on individuals and their rights. PIAs take into consideration how laws affect privacy and assess any associated risks in the relevant jurisdictions where we operate. PIA reviewers are also trained to identify and highlight potential impacts to freedom of expression. Apple regularly engages with a wide range of civil society representatives globally on various privacy and freedom of expression issues, including privacy by design and encryption.



Learn more about [privacy](#) at Apple.

[Review privacy features](#)

[Control what you share](#)

[See how apps from Apple handle your data](#)

Privacy inquiries

Privacy questions, concerns, or complaints can be raised online or by calling our [Apple support number](#). Our Data Protection Officer is available for questions regarding the Privacy Policy or general privacy practices.

Embedding security and privacy

We've spoken out, time and again, for strong encryption without backdoors, recognizing that security is the foundation of privacy. We build security into our hardware, software, and services to provide users with maximum security and a transparent user experience, serving the ultimate goal of keeping personal information safe. And we've designed the Secure Enclave—a dedicated secure subsystem integrated into Apple hardware—to keep sensitive user data, like biometric information, secure.

As part of our commitment, our [Apple Security Bounty](#) rewards researchers who discover and share with us critical issues in our latest operating systems and the techniques used to exploit them.

Apple also uses administrative, technical, and physical safeguards to protect users' data, taking into account the nature of that information and the threats posed. Apple employees who handle personal information are only permitted to use approved software and collaboration tools, and all our employees can easily raise any privacy issues and questions with our Data Protection Officer.

When we become aware of a potential data security incident, we conduct prompt investigations and analysis, provide notifications in a timely manner when necessary, and determine what steps to take in response.



We maintain current **[ISO 27001 and ISO 27018 certifications](#)** setting user security standards, for which we undergo yearly audits.

Accessibility

Technology works best when it works for everyone. At Apple, we believe accessibility is a human right, so we design our products and services with everyone in mind.

Vision

Our features for blind and low-vision users include VoiceOver, an industry-leading screen reader that describes exactly what's happening on your device, and Zoom, a screen magnifier that lets you enlarge the content you see on your device. Magnifier turns the camera on an iPhone, iPad, or iPod touch into a digital magnifying glass to increase the size of any physical object you point it at.

Hearing

To support customers who are deaf or hard of hearing, Apple was the first to create a direct connection between hearing aids and cochlear implants to iPhones and other iOS devices through the Made for iPhone program. This enables customers with hearing loss to make phone calls and stream high-quality audio directly to their hearing devices. Sound Recognition is a feature that notifies users of external environmental sounds

like doorbells and alarms, while FaceTime detects when someone uses sign language in group calls and makes them more prominent. Other features include Headphone Accommodations, which adjust certain sounds and frequencies to best suit a user's hearing preferences, and Sensory Alerts, which offer visual or vibrating notifications for incoming calls, messages, and events.

Mobility

Users with limited mobility can use Switch Control to navigate their device easily and efficiently with a variety of adaptive switch hardware, a single tap, or mouth sounds for users who are non-speaking and have limited mobility. Voice Control lets a user control a device with voice commands, and AssistiveTouch for watchOS allows users with upper body limb differences to enjoy the benefits of Apple Watch without ever having to touch the display or controls. With Touch Accommodations, customers can control how long they touch the screen before it's recognized and whether repeat touches are ignored, while Back Tap lets users double-tap or triple-tap the back of their iPhone to automatically perform a range of custom tasks, from opening an app to taking a screenshot.



Learn more about **[Apple's accessibility features](#)**

Cognitive

Our products are built with an array of features to support neurodiversity and cognitive disabilities. Apple is introducing new background sounds to help minimize distractions and help users focus, stay calm, or rest. Audio can be used to enhance reading or writing comprehension with Speak Screen or Speak Selection for iOS. Text to Speech on Mac lets users highlight text to hear it read aloud in over 35 languages, and Dictation and Siri help anyone who finds speaking easier than typing or writing. Another feature, Guided Access, limits a device to a single app and lets users control which features are available.

Community support

We offer sessions to teach anyone how to use our built-in accessibility features and provide tools for developers to make their apps more accessible. In May 2021, we announced world-class, on-demand sign language interpretation services, designed to communicate with AppleCare and Retail Customer Care using American Sign Language (ASL) in the U.S., British Sign Language (BSL) in the UK, or French Sign Language (LSF) in France. With the SignTime app, along with video remote and onsite interpreting, Apple customers and team members can now request an interpreter for one-on-ones, group meetings, external interviews, and more.



Apple has received many awards for its impact in disabled communities, including the prestigious Helen Keller Achievement Award from the American Foundation of the Blind.

Education

For more than 40 years, we've worked alongside educators to inspire the next generation of learners, supporting creativity, problem-solving, communication, and collaboration.

We believe that education is a great equalizing force, and our goal is to empower all educators and learners through technology that protects student privacy and is accessible for all learners. We develop products, programs, tools, and curricula for educators to create engaging learning experiences, and we support education leaders and administrators so they can get the most out of the technology in the classroom and beyond.

Coding is a universal language, and a great way to help students think critically and express their creativity. We're always working to make it easy and fun to learn to code, with supportive resources like Swift Playgrounds and the Everyone Can Code curriculum. And we work hand in hand with communities—particularly communities of color and others often under-resourced—to bring coding, creating, and entrepreneurship opportunities to learners of all ages.

Products for learning

Knowing that everyone has their own way of learning and expressing themselves, we offer products that support students and educators from kindergarten through higher education. iPad provides apps and advanced technologies that help educators teach and students push the boundaries of their creativity. The Augmented Reality capabilities on iPad let students bring digital objects into the real world to spark curiosity and enhance understanding in new, exciting ways. And the powerful Mac processors are equipped for the most intensive tasks, throughout university and far beyond.

We also developed Apple School Manager, a free web-based portal that helps IT administrators in K-12 and higher education institutions effortlessly configure, deploy, and manage iPad and Mac devices.



Learn more about how Apple empowers educators and learners of all ages.

Teaching tools

Our teaching tools empower educators to personalize the learning experience for each student and manage the classroom to keep every student on task. Our Classroom app serves as a powerful teaching assistant that makes it easy to navigate lessons and share information, while the Schoolwork app aids the distribution and collection of assignments, tracks progress, and supports collaboration with students.

Curricula and project guides

Our programs help educators integrate creativity and coding into their lessons, even if they're new to teaching with technology:

- **Everyone Can Create:** Gives educators fun and meaningful ways to bring creative expression into any lesson, topic, or assignment. The free guides teach students to develop and communicate ideas through drawing, photography, video, and music, while teacher guides help educators integrate both technology and creativity into every lesson.
- **Everyone Can Code:** Guides students through the Swift Playgrounds app on iPad and Mac. This free curriculum and the app teach coding for kids through a world of interactive puzzles and playful characters, and introduce Swift, the same programming language used by professional app developers. Teacher guides support educators in teaching code, even if they have no experience.
- **Develop in Swift:** Teaches students aged 14 and over how to use Swift for designing and developing apps through Apple's integrated development environment, Xcode. In 2020, we launched a free online course taught by Apple experts that helps instructors learn to teach Swift and Xcode.

Inspiring others

Our programs nurture and support educators and schools using Apple technology. We recognize those that go above and beyond to rethink what's possible so they can help inspire and mentor others.

Our community of nearly 3000 **Apple Distinguished Educators** in 45 countries model, advise, advocate, and publish materials on ways to integrate Apple technology into teaching and learning. These educators are active leaders, helping to make learning deeply personal for every student.

Apple Distinguished Schools are centers of leadership and educational excellence that demonstrate the impact of learning with Apple technology. The 500-plus schools in 32 countries cultivate environments where students are excited and curious about learning.



Apple Distinguished Educator Mike Lang is using Dr. Martin Luther King Jr.'s legacy to show his kindergarten and first grade students at Laura Dearing Elementary School that they have the power to change the world.

Inspiration and support for teachers

We help educators share experiences, ideas, and inspiration, so that they too can get more out of the technology in their classrooms:

- **Apple Teacher:** A free online, self-paced professional learning program that helps teachers build their skills and confidence teaching with Apple technology and earn Apple Teacher recognition.
- **Apple Teacher Portfolio:** A new addition to Apple Teacher that further supports educators in reimagining their lessons.

- **Apple Professional Learning Specialists:** These experts provide one-on-one coaching sessions and group professional learning workshops for educators, in addition to the support resources available online or via phone.

The majority of our educator tools are free, and we offer special pricing on Mac, iPad, and other Apple hardware for education institutions, eligible college students, and education faculty and staff.



Read more about Apple's community education initiatives in **Communities** (p45).

Health

Apple empowers our users to take control of their health by making it easier to track and share their health and wellness information while always keeping their data secure. This allows for a more informed dialogue with loved ones and doctors, offering the ability to make better health choices on a daily basis.

Technology for better health

Since launching Apple Watch in 2015, we've been constantly inspired by the stories we hear from our users about how using Apple Watch for health and fitness has changed their lives. These range from users who found closing their Activity rings every day motivated them to be in the best shape of their lives to those alerted to a potential irregular heart rhythm who sought medical care to confirm. Stories like those continually drive us to do more for our users.

Building on innovative features for Apple Watch like ECG, Irregular Rhythm Notifications, and Fall Detection, Apple introduced a variety of new services and features to help people on their health and fitness journeys. With Apple Fitness+, we built an entirely new, inclusive, and welcoming fitness service that intelligently incorporates workout

metrics from Apple Watch for a first-of-its-kind personalized and immersive experience. New apps like Handwashing, Sleep, and Blood Oxygen offer more insights into users' overall wellness to make more informed decisions for themselves. Apple Watch users can also view a classification of their Cardio Fitness Level—a powerful predictor of overall health—in the Health app, and receive a notification if it falls within the "low" range. The breakthrough technology allows users to better understand their cardio fitness measurements right on their own wrist.

On iPhone, Walking Steadiness is an industry first, providing insight into fall risk by capturing important mobility data as users walk with their iPhone, directly within the Health app. The Health app provides a consolidated view of users' health information—data from iPhone, third-party apps, and Apple Watch. And since introducing the feature in 2018, Health Records at more than 12,000 care locations across three countries are available for users to directly access from multiple providers. Additionally, users have the option to securely share their health data with a loved one, caregiver, and, in the U.S., their doctor through the Health app.

Health research

Everything Apple does in health is based in science. We have a history of enabling the medical community through platforms like ResearchKit and CareKit, which help researchers produce medical insights and discoveries on conditions from epilepsy to Parkinson's at a pace and scale never seen before.

Apple technology is helping democratize medical research by giving users the ability to opt-in to share data through the Research app on their iPhone or Apple Watch. In 2021, in collaboration with Harvard T.H. Chan School of Public Health and the University of Michigan, the Apple Women's Health Study and Apple Hearing Study released new insights on women's health and hearing health.

In 2020, Apple joined forces with researchers at several universities across North America to explore how Apple Watch and iPhone can help across a variety of conditions, including depression, asthma, and heart failure.

Partnering with the medical industry

Our technology gives healthcare providers the tools they need to work effectively within hospitals and connect remotely with patients. Apps on iPad, iPhone, and Apple Watch can help medical professionals deliver personalized care. Our devices protect patient data yet remain accessible and easy to use across providers. The result is care that becomes more efficient, more personalized, and ultimately, more human.

For providers, especially during COVID-19, we've seen the power that technology has brought to healthcare. FaceTime was, and still is, being used to deliver virtual care at a time when PPE was so scarce and face-to-face medical appointments were often deferred.

At home, iPhone, Apple Watch, the Health app, and HealthKit-enabled apps and devices make it easy for patients to record and share their health data. This became even more important during the pandemic as many patients began opting for virtual visits.



Privacy is a fundamental aspect of our health work. The right place for health information to exist is with a user on their device, and where or how that information is shared should be completely up to the individual.



Apple Fitness+, the first fitness service built around Apple Watch, launched in December 2020. Apple Fitness+ intelligently incorporates workout metrics from Apple Watch for a first-of-its-kind personalized and immersive workout experience.

Caring for customers

At Apple, we want to create products and services that enrich people's lives. To us, that means making the best, not the most, and only building things that make us proud.

A world-class experience

We're motivated by creating the best user experience through our products and in every interaction with our customers. We focus on breakthrough technologies and innovative features that set us apart and keep people coming back to Apple. Consumer surveys have consistently shown high satisfaction ratings for our revolutionary products, including iPhone (97 percent or higher), Mac (over 90 percent), iPad (over 93 percent), and Apple Watch (over 90 percent).¹⁸

Support through retail

Our focus on our customers extends to an unparalleled retail experience that puts the people we serve at the center of everything we do.

Our retail teams inspire our customers to discover, learn about, and choose Apple products, services, and accessories by delivering a personalized experience like no other. Apple Specialists in our retail stores and contact centers help customers find the right products with one-on-one shopping and support sessions—in person, over the phone, or via chat. Today at Apple sessions help customers learn how to get the most from their devices and take their creativity further.

Apple's Education team works to ensure students, teachers, and parents have the best learning tools for the classroom. For business customers, the dedicated teams in every Apple Store provide the advice, pricing, and support small businesses need in our communities.

We work closely with Apple Authorized Resellers, like carriers, and retailers to enhance the customer shopping experience beyond our own retail locations and the Apple online store.

Listening and improving

To ensure quality, we continually monitor customer feedback, assess key drivers, and leverage analytics to improve the customer experience. Customer feedback is shared with team members as well as leaders, so that everyone understands their impact and is focused on making the customer experience the best it can possibly be. Our Net Promoter Scores® (NPS®),¹⁹ a measure of brand loyalty, are consistently strong and industry-leading among retailers, and reflect our commitment to the customer shopping and support experience.

As we continue delivering exceptional products, we remain committed to high-quality standards and transparent communication with customers. We maintain a System Status page to actively report on identified system issues and offer service programs to address hardware issues. We encourage our customers to contact us with questions, feedback, or to request support.

Product longevity

We are committed to providing long-lasting devices by building durable hardware designed to endure the rigors of everyday use and to be compatible with years of software updates that unlock new features and functionality. We also provide convenient access to safe and reliable repair services in case they're needed, and offer collection programs to refurbish or recycle products.

Product durability

Our customers expect their devices to be ready when they need them, with minimal interruption for maintenance or repair. Apple products are designed to endure daily life, and confidence in the reliability of the device is an essential element of the product experience.



We take responsibility for our products throughout their life cycles—including the materials they are made of, the people who assemble them, and how they are recycled at end-of-life. Read more in our **Product Environmental Reports**.

Engineers in our Reliability Testing Lab measure the performance of materials, components, and products. Through our iterative testing approach, we continuously improve designs until they can withstand rigorous real-world conditions and meet our strict durability standards, which are informed by in-depth user studies to understand how our customers use their products.

Software support

Product longevity relies as much on software support as it does on durable hardware design. That's why we work to continually improve the operating systems that power our products. We engineer each software release to make sure it runs beautifully on all supported devices. This helps us maximize the number of customers who benefit from the latest software updates, regardless of whether their device is brand-new or several generations older.

Access to repairs

We design our products for durability to minimize the need for repair. But when a repair is needed, we believe our customers should have convenient access to safe and reliable repair services so their product is up and running again as quickly as possible.

Apple-certified repairs are performed by trusted experts who only use genuine Apple parts to ensure reliability and safety. Customers can ship their products to Apple Repair Centers, find an Authorized Service Provider, or visit a Genius Bar at an Apple Store. Since 2019, our repair programs added over 1500 Independent Repair Providers to our growing network of over 5000 Apple Authorized Service Providers around the world. Our program leads the industry for customer satisfaction and helps millions of people with both in- and out-of-warranty repairs.

Refurbishing and recycling

At the end of product life, we make it easy to recycle devices for free, and provide a range of upgrade, finance, and trade-in options. And by encouraging our customers to access the value of their current device through Apple Trade In or third-party trade-in platforms, we not only make their next purchase more affordable, we also enable a new customer to experience Apple products and services through their purchase of a refurbished device. Refurbished devices meet the highest quality, performance, and safety standards.

Product safety

We design our products to make sure they're safe for anyone who assembles, uses, or recycles them.

Commitment to safety

The well-being of those who design, make, use, and recycle our products is a priority for Apple, which is why we're committed to using safer materials to create safer products. We assess the health and safety of all our products, during every stage of their life cycle, from early concept development, through use, service, and repair, to recycling. During the design and prototyping process, cross-functional Apple teams analyze potential failures and their effects from a quality and safety perspective. The results drive product design improvements and manufacturing process controls.

Safety compliance

Apple's products are designed, tested, and certified to comply with international and regional safety standards. They also meet our own specifications, which often go above and beyond what is required. For example, Apple's Regulated Substances Specification restricts the use of certain chemical substances in Apple products, and we apply rigorous additional controls for materials that may have prolonged contact with the skin. Components that are critical to safety are subject to enhanced requirements and additional supplier audits.

Apple's Safety Compliance Policy defines procedures to monitor products in the field and investigate potential safety issues. This policy requires prompt escalation of safety issues to Apple management and timely reporting to regulators. It also requires mechanisms for employees to confidentially report safety or compliance concerns, as well as training for employees on how to address the concerns. Our Product Integrity and Legal teams are responsible for ensuring Apple's Safety Compliance Policy is followed.



Read more about how we create products that are safer across their entire life cycle in [Smarter chemistry](#) (p12).

From the very beginning of the COVID-19 pandemic, we partnered with our suppliers to ensure strong protections were in place for their employees.



Suppliers

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We are deeply committed to working with our suppliers to ensure that the people in our supply chain are safe at work, that they are treated with dignity and respect, and that our planet is protected throughout the process of building our products.

This responsibility includes supporting our suppliers in achieving the highest standards of labor, human rights, and health and safety, and investing in the personal and professional development of those working in our supply chain. It also means working with them to promote renewable energy and energy efficiency; reduce waste; recover and use recycled materials; and design the recycling technologies of the future.

Our approach to supplier responsibility

At Apple, people come first in everything we do. That means holding ourselves and our suppliers to the highest standards of labor and human rights, health and safety, environmental protection, and ethical conduct.

Our supply chain

Apple's supply chain comprises a complex global network of businesses spanning more than 50 countries worldwide. We define our supply chain broadly, including the design, engineering, manufacturing, and recycling of our products, as well as the companies and places where our suppliers source materials. It also incorporates logistics, sales, and support functions, as well as suppliers that support Apple services.

Upholding the highest standards

Developed in 2005, the [Apple Supplier Code of Conduct](#) (the Code) and the [Apple Supplier Responsibility Standards](#) (the Standards) outline our requirements for suppliers in the areas of labor and human rights, health and safety, environment, management systems, and ethics. We share these requirements with suppliers through annual tailored communication and guidance, and require all suppliers to train their employees on their rights.

Our Code and Standards are aligned with internationally recognized labor and human rights standards, including the International Labour Organization's Declaration on Fundamental Principles and Rights at Work and the Organisation for Economic Co-operation and Development's (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, as well as industry-leading health and safety standards. Our approach to conducting labor and human rights due diligence in our supply chain is based on the UN Guiding Principles on Business and Human Rights (UNGPs).

Every year we incorporate feedback from stakeholders to ensure that our Code and Standards reflect current internationally recognized standards. We also engage with human rights, environmental, and industry organizations to openly share our tools and learnings with other companies in order to drive high standards beyond our supply chain and accelerate progress more quickly.

Sabih Khan is Apple's Senior Vice President of Operations, reporting to COO Jeff Williams. Sabih is in charge of Apple's global supply chain, ensuring product quality and overseeing planning, procurement, manufacturing, logistics, and product fulfillment functions, the programs that support Apple's Supplier Responsibility work. The Operations team also supports Apple's environmental initiatives by partnering with suppliers to propel green manufacturing, help conserve resources, and protect the planet.



For more information, read Apple's [People and Environment in Our Supply Chain](#) report.

Identifying and managing salient risks

Identifying potential human rights risks to people in our global supply chain is the first step toward eliminating them. Our prevention strategy relies on both internal monitoring and analysis, as well as input from key rights holders, stakeholders, international organizations, policymakers, and partners.

Reports identifying potential risks can also come to us from grassroots civil society organizations, local news outlets, individuals in the supply chain or supply chain communities, local whistleblower mechanisms, and third-party hotlines. They also

come through the reporting mechanisms we make available directly to supplier employees, Apple employees, and the general public. These reports can come to us in any language and can be anonymous.

We work quickly and diligently to thoroughly investigate reports, and promptly correct any issues we discover. If any issues are discovered, we go further to prevent recurrence by implementing improvements to our policies and strategies, building capability with our suppliers, and integrating findings and learnings into our annual Code and Standards updates.

Partnering with our suppliers

We partner closely with our suppliers to help them meet and exceed our workplace and environmental requirements.

Assessing prospective suppliers

We assess select prospective suppliers and facilities on their ability to adhere to our rigorous Code and Standards before they enter our supply chain through a process called the Facility Readiness Assessment. In calendar year 2020, 8 percent of prospective suppliers evaluated were excluded from entering our supply chain for being unable or unwilling to meet our high standards.

But even if prospective suppliers are ultimately not awarded business by Apple, we continue to help them improve their performance across environmental, health and safety, and labor and human rights criteria. This includes providing subject matter expertise to help them correct any compliance issues found during the supplier and facility selection process. While the program is voluntary, 56 percent of companies opted to receive this additional support in 2020, helping to protect the rights of people beyond our supply chain.

Driving continuous improvement

We assess our suppliers' performance according to our Code and Standards, and we work closely with our suppliers to drive continuous improvement, because we believe that if we're not finding ways to improve, we're not looking hard enough.

Our comprehensive supplier assessments, also known as audits, evaluate suppliers against more than 500 criteria. Throughout the assessment process, independent third-party auditors conduct extensive document reviews, thorough site walk-throughs, and interviews with management and workers. This rigorous process can take anywhere from a day to more than a week, depending on the scale of the supplier's operations.

The high-level factors Apple considers when selecting suppliers for assessment include geographic location, previous assessment performance, previous record of Core Violations or allegations, how much business the supplier does with Apple, and whether the supplier employs those from vulnerable groups, such as Foreign Contract Workers.

Beyond our regularly scheduled assessments, every year we also conduct unannounced assessments. In calendar year 2020, we conducted more than 100 unannounced assessments and investigations, up from 70 in 2019. We also supplement our own assessment protocol with the Responsible Business Alliance's Validated Assessment Program, a third-party assessment widely used by the industry. Apple-managed assessments covered a cumulative total of 94 percent of Apple's direct manufacturing spend based on assessments conducted since 2007. In 2020, a total of 1121 assessments were conducted across manufacturing sites, smelters and refiners, and service providers, including those that support AppleCare and Apple Retail. Results of these assessments are detailed in Apple's People and Environment in Our Supply Chain report.

Accountability at every step

As auditors review supplier documentation or inspect a supplier site, they look for any instances of noncompliance with Apple's Code and Standards. Assessment findings are divided into three categories based on their severity, with Core Violations being the most serious type of violation.

If a Core Violation is identified, the supplier's Chief Executive Officer is notified and the supplier is placed on probation. The probation period continues until Apple determines that the supplier has completed all corrective actions. The possible consequences of probation include receiving no new projects, no new business, or the termination of existing business with Apple.

If noncompliance is identified, we take prompt action to ensure suppliers correct the issue and make meaningful, long-term changes. We do this through a Corrective Action Plan (CAP), during which 30-, 60-, and 90-day check-ins with Apple are required. We then conduct our Corrective Action Verification (CAV) process to verify that all corrective actions have been successfully implemented, and necessary steps have been taken to prevent a reoccurrence. Beyond immediately addressing the Core Violation, suppliers must also make changes in their management system that address the root causes of the violation, take and sustain preventive measures to ensure the violation does not reoccur, and provide remedy to affected workers in line with the UNGPs.

We are committed to working with a supplier until it becomes clear they are unable or unwilling to uphold our high standards. At that point, they risk removal from our supply chain. Since 2009, we have directed the removal of 24 manufacturing supplier facilities, and 153 smelters and refiners from our supply chain.

Instilling a culture of safety

Health and safety are a critical part of every assessment we conduct at supplier sites. Among other standards, suppliers must implement programs for tracking the use of hazardous chemicals and communicating related risks, maintain systems for reporting and addressing health and safety incidents, and provide training in local languages for all their employees. Any instances of noncompliance with our Code and Standards during an assessment are addressed through Corrective Action Plans, online training materials, and in-person capability-building with Environment, Health, and Safety (EHS) experts.

In 2020, we partnered with our suppliers from the very beginning of the COVID-19 pandemic to ensure strong protections were in place for their employees, and that their rights were respected throughout. This included daily infection and recovery reporting, one-on-one support, and in-depth guidance on health, safety, and labor and human rights standards.

We are also continually improving machine safety across our supply chain. To identify high-priority suppliers, we conducted a risk assessment of suppliers considering three main areas: machine procurement, machine safety sign-off, and safe work procedures. And in 2021, we provided customized, onsite support to 78 suppliers to help improve machine safety in their facilities. We also introduced a new Apple Machine Design Safety Guide for machine builders who provide equipment for enclosure manufacturers in order to help them put into place high safety standards starting with how machines are designed.



Read more about
**Apple's response to
COVID-19** (p21).

94%

Apple-managed assessments covered a cumulative total of 94 percent of Apple's direct manufacturing spend based on assessments conducted since 2007.

Advancing smarter chemistry in manufacturing

While we require suppliers to maintain strict safety measures at all times, the strongest method we can employ to protect people is to select safer materials from the start.

An area where we are making an immediate impact is with process chemicals, such as cleaners and degreasers, that are used in manufacturing processes. All of our final assembly sites use only safer alternative cleaners and degreasers. This year, we were the first consumer electronics company to receive the U.S. Environmental Protection Agency's (EPA) Safer Choice Partner of the Year Award in recognition of our work to scale the use of safer process chemicals in our supply chain.

We also require that suppliers comply with Apple's Regulated Substances Specification, a list of substances that Apple restricts from being included in Apple products or used in their manufacturing. We hold our suppliers accountable by conducting factory audits and testing materials and components at certified laboratories for substances of high concern. We also support our suppliers by sharing a list of identified safer alternatives and promoting the use of substances that meet our standards.

Responsible materials sourcing

Deeper in our supply chain, we require suppliers to responsibly source materials and conduct due diligence in their own supply chains. We also

consider the human rights impact on surrounding communities, engage with others to strengthen industry standards, drive transparency, and foster the same opportunities as we do in other parts of Apple's supply chain.

Our strict Responsible Sourcing Standards apply to primary minerals, recycled materials, primary minerals processors, recyclers, and even to the mining level. We conduct detailed due diligence of our supply chain by mapping higher-risk minerals and identifying risks and opportunities in the supply chain using tools created by Apple. We then take corrective actions where social, environmental, human rights, and governance risks are identified through a variety of sources, such as independent third-party audits, civil society engagement, and public reporting.

We investigate allegations deeper in our supply chain through our Responsible Minerals Sourcing program, which requires minerals suppliers to review incidents and public allegations linked to their smelters and refiners, and to participate in traceability and audit programs that address and mitigate risk.

We also provide support to the Fund for Global Human Rights, which partners with grassroots human rights and environmental organizations in the Democratic Republic of the Congo (DRC). And we continued our support to the International Tin Association's International Tin Supply Chain Initiative's (ITSCI) DRC whistleblowing mechanism, to empower and amplify local voices.



Read more about our smarter chemistry work in our [2021 Environmental Progress Report](#).

See Apple's [2020 Conflict Minerals Report](#) for more information on responsible materials sourcing.

100%

In calendar year 2020, 100 percent of the identified tin, tungsten, tantalum, gold, cobalt, and lithium smelters and refiners in our supply chain participated in independent third-party audits.



Apple partnered with RESOLVE and Tiffany&Co. on the Salmon Gold project, which works with small-scale gold miners and Indigenous peoples in remote regions of the Yukon, Alaska, and British Columbia to support a mining practice that helps restore rivers and streams so that salmon and other fish can thrive.

Supplier employees

Everyone deserves to be treated with dignity and to have their rights respected. As part of our Supplier Code of Conduct, we require our suppliers to provide their employees with training on their rights. Apple also directly engages with tens of thousands of supplier employees on their workplace experiences each year—because the more we listen and learn, the better we all are.

Worker rights

Since 2008, 21.5 million supplier employees have been trained on their rights. Building on this progress, we're working with partners to deliver digital worker rights training to supplier employees, enabling better learning and more accurate knowledge gap identification.

Suppliers are required to respect the rights of their employees to form or join, or refrain from joining, organizations of their choice, and to bargain collectively. Even where the right to freedom of association or collective bargaining is restricted under local law, suppliers are prohibited from obstructing alternative legal means for workers to associate or to individually and collectively engage with their employer without interference, discrimination, retaliation, or harassment. In 2020, 562 supplier facilities in 25 countries employed unionized workers, and 422 sites had negotiated collective bargaining agreements with their employees.

Worker voice

Listening directly to rights holders is critical to creating safe and equitable workplaces. Our Code and Standards require worker feedback channels, including grievance mechanisms at supplier sites. These grievance mechanisms include third-party anonymous hotlines and the ability to contact the Apple Environment and Supply Chain Innovation team at any time, and in any language.

Worker interviews are an important part of every supplier assessment we conduct. In 2020, we interviewed 57,618 supply chain workers, in their local language and without their managers present, to confirm that their experience on the job aligns with our observations during assessments.

In 2019 we began anonymously measuring supplier employees' general satisfaction at work and in 2020 we surveyed 196,647 workers from 135 facilities across Greater China, India, Ireland, the UK, U.S., and Vietnam. The surveys sought feedback on different aspects of the workplace, including working and living conditions, food, and management. And as a result of these surveys, suppliers took 3173 actions to address worker feedback, including adding shuttle buses, reducing turnaround time for addressing worker grievances, increasing bonuses, and improving dorm maintenance.

We are also exploring additional digital tools to further scale worker voice across our supply chain, including a digital platform that combines digital and in-person training to help suppliers gather and address worker grievances, measure worker satisfaction, and provide health and well-being training and services to their employees.



For detailed information on our assessment process and how we remediate Core Violations, read [How We Work With Suppliers](#).

Worker education and professional development

Over the last decade, we've developed a network of higher education opportunities, coding courses, vocational certification programs, and health awareness education programs, that help people working in our supply chain to cultivate the skills needed to advance in the jobs of today and tomorrow. Some examples of these programs include:

- **Supplier Employee Education and Development (SEED):** Since 2008, the SEED program has helped 4.65 million supplier employees cultivate skills to prepare for the future of work.
- **Apprenticeships and technical training:** Over 18,000 supplier employees have participated in our technical training and apprenticeship programs since 2018, including programs on robotics, Computer Numerical Control machines, and mobile device repair. We're also working to increase the impact of these programs by helping expand the capabilities of teachers at local vocational schools.
- The **Automation Technician program** teaches students to install, maintain, and repair automation machines in the production line, while the **Line Leader program** helps students cultivate skills needed to advance into production line supervisor roles. Among other topics, the program covers management training, production organization and management, and project management.
- **Coding:** A few years ago we began offering training to supplier employees on Apple's Swift coding language. We've expanded this program so students can also learn from Creatives at our Apple Store locations to become more familiar with the functionality of Apple products and services, and gain insight into Apple's developer systems as they continue to advance in their coding coursework.
- **Health and wellness:** We provide programs that empower supplier employees to take charge of their own personal health and well-being. Our health education program started in 2017 in China as a peer-to-peer program providing training on reproductive health, disease prevention, and nutrition. The program has since expanded to other countries and further provides support for identified health needs in local communities.

3173

actions taken by our suppliers in 2020 in response to worker feedback.

21.5M

supplier employees trained on their rights since 2008.

4.65M

supplier employees have participated in educational programming since 2008.



Students in a SEED lab studying Swift coding.

Environment and the supply chain

We are committed to creating products that enrich the lives of our customers, and to producing them in a manner that doesn't deplete the earth's resources. This responsibility extends throughout our supply chain—from initial design through manufacturing, and across the entire life cycle of our products.

We work with our suppliers to help us address our environmental commitments, such as becoming carbon neutral by 2030 across our entire product footprint. Our Supplier Energy Efficiency Program and Supplier Clean Energy Program both address direct and indirect emissions in our supply chain, while our Supplier Clean Water and Zero Waste programs help to reduce resource usage.

In addition, our Code contains strict environmental protections, which require our suppliers to understand and take active steps to reduce their environmental impact while also becoming better stewards of the resources we all share and the communities in which we operate. Specifically, our Code addresses the management of regulated substances, stormwater, wastewater, air emissions, waste, and noise, as well as pollution prevention, resource reduction, and obtaining necessary environmental permits.



For more information on these supplier programs, see the [Environment](#) section (p7) and the [2021 Environmental Progress Report](#).



This 80 megawatt solar facility in North Carolina is one of the many energy solutions used by Apple's suppliers to support their commitments to 100 percent renewable energy for Apple production.

Working in partnership

From human rights to climate change, there exists a wide range of issues that are bigger than any one company or organization. They require a multi-stakeholder approach, bringing together the best thinking from a range of sectors and geographies to address these issues at a systemic level.

To do this, we engage with industry associations, civil society organizations, academics, UN agencies, and governments to share our progress and promote best practices. We also regularly convene stakeholder roundtables and expert groups to learn from others' perspectives and seek feedback on our programs.

For more information on all of our efforts and programs to protect people and the environment throughout our supply chain, please refer to the following reports and disclosures:

- [People and Environment in Our Supply Chain, 2021 Annual Progress Report](#)
- [How We Work With Suppliers](#)
- [2020 Conflict Minerals Report](#)
- [2020 Supplier List](#)
- [2020 Smelter and Refiner List](#)
- [2020 Efforts to Combat Human Trafficking and Slavery](#)

Using our purchasing power for good

For Apple, our work to make our company more inclusive extends to how we choose the businesses we work with. When contracting with suppliers, we use our purchasing power to increase diversity in the field and change outdated norms that hurt those who are underrepresented in their field or industry.

Apple's award-winning²⁰ Supplier Diversity program, established in 1993, actively engages suppliers from historically underrepresented communities. We have policies that require diverse supplier participation during early-stage sourcing, key performance indicators to measure company success, and diversity awareness trainings for our global sourcing team members and related Apple business units. In 2016, Apple was the first Silicon Valley-based company to be invited into the Billion Dollar Roundtable (BDR) in recognition of our long-standing commitment to promoting diversity within our supplier base. BDR celebrates corporations that achieved spending of at least \$1 billion with minority- and woman-owned businesses. In calendar year 2020, Apple spent \$5 billion with diverse suppliers around the world.²¹ Our program offers support to participating suppliers and seeks active engagement in industry diversity leadership activities.

One highlight of this program is that minority-owned banks are included in our debt offerings. For the last 14 U.S. bond offerings, we selected minority-owned banks as underwriters and have expanded both the number of firms we include and the allocation and fees that we pay them. Our February 2021 \$14 billion bond issuance resulted in one of the largest amount of fees paid to minority-owned banks on a single bond deal by a corporation.

We're also promoting diversity in the companies with which we do business. For example, our contracts with law firms require that the attorneys staffing our projects include members of traditionally underrepresented groups, and provide anonymized timekeeper data. It's not only a contract term. In day-to-day practice, we've implemented "diversity blend" commitments—how much billable time the firm will commit to have performed by people from underrepresented communities, including women and LGBTQ+ lawyers—when bidding for work. By initiating these discussions at the contract negotiation stage, we are ensuring that diversity is core to our engagement. In recognition of this work, Apple has been awarded the *Financial Times* Innovative Lawyer Award for Inclusion, Diversity and Social Justice.

Apple's Community Education Initiative (CEI) focuses on expanding learning opportunities in communities that are traditionally underrepresented and under-resourced in technology.



Communities

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As a company with teams and customers around the world, we're a member of a shared global community. Those connections inspire our commitment to act as a catalyst for positive change—change that uplifts the people we work with, increases access to opportunity, and helps build a better future for all. Whether we're creating new tools for teachers and students, or new pathways for the next generation of diverse entrepreneurs, the through-line is our focus on advancing the always urgent cause of equity and justice.

Community initiatives

At Apple, we are committed to leaving the world better than we found it. That means supporting communities globally with initiatives that combat inequity and expand access to opportunity. Through efforts that address racial equity and justice, education, affordable housing, and more, we foster open communication with local community partners and stakeholders to understand dynamic challenges in order to drive meaningful impact. Apple supports these initiatives through strategic investments as well as donations to nonprofit partners.

Racial Equity and Justice Initiative

We have an urgent responsibility to help dismantle systemic racism and support opportunities for communities of color. Our Racial Equity and Justice Initiative (REJI), launched in June 2020 and beginning in the United States, focuses on creating lasting change in three areas: expanding access to education, supporting criminal justice reform, and removing economic barriers for Black and Brown communities. Starting with a \$100 million commitment, this initiative has spurred new partnerships and projects while inspiring us to weave a focus on equity and justice into everything we do.

Access to education

REJI builds on our long-standing commitment to education. We're partnering with schools in under-resourced communities to enrich their science, technology, engineering, and math (STEM) programs, and to support educators and learners with Apple technology, curriculum, and hands-on professional learning. To deepen our engagement with historically Black colleges and universities

(HBCUs) in the U.S., Apple helped launch the Propel Center, a global innovation and learning hub in Atlanta, Georgia, that offers innovation curricula, technology support, career opportunities, and fellowship programs. In addition, we are deepening and expanding our work with new innovation grants for HBCU engineering programs, a Fellows program for educators, and academic scholarships.

Criminal justice reform

We support organizations that continue to challenge a justice system that disproportionately fails Black and Brown people. These include the Equal Justice Initiative, Leadership Conference Education Fund, the King Center, and the Birmingham Civil Rights Institute.

Economic equality

Black founders and developers in the technology sector face systemic barriers, especially when starting and leading companies. Programs like our Entrepreneur Camp for Black Founders and Developers give app founders and developers guidance and support from Apple experts so they can take their app experience to the next level. We're also partnering with Michigan State University to open an Apple Developer Academy in Detroit, a city with a vibrant Black entrepreneur and developer community and over 50,000 minority-owned businesses.²² Our work to promote Black and Brown businesses extends to our own business activities, where we are increasing Apple's spend with diverse suppliers. Read more in Using our purchasing power for good (p43).

In her role as Vice President for Environment, Policy and Social Initiatives, Lisa Jackson leads Apple's Racial Equity and Justice Initiative and is responsible for Apple's environmental initiatives, community education programs, product accessibility, and community giving. Community initiatives are managed through cross-functional collaboration with teams across Apple, including Treasury, Compliance, People, Real Estate & Development, Legal, and Education.

In January 2021, we announced two financial commitments to support Black and Brown entrepreneurs. We are investing \$10 million in Harlem Capital, an early-stage venture capital firm based in New York with a mission to support 1000 diverse founders over the next 20 years. And Apple is investing \$25 million in Siebert Williams Shank's Clear Vision Impact Fund, increasing loan capital for small- and medium-sized minority-owned businesses and underserved communities.

In May 2021, building on these two commitments, we supported VamosVentures, a Latinx-owned fund investing in technology-enabled companies led by Latinx and diverse founders, and Collab Capital, which aims to decrease the racial wealth gap by helping Black-founded businesses overcome the funding and network challenges that often stifle their growth.

To ensure that our work to protect the planet also enhances equity, we launched an Impact Accelerator for Black- and Brown-owned businesses. Read more about [Apple's Impact Accelerator](#) (p9).

Education

We believe access to education is a human right, and that everyone has their own way of learning and expressing themselves. We work hard to ensure our resources are used to uplift communities around the world, creating opportunities for educators and students to gain coding skills and unlock creativity.

Community Education Initiative

Inspired by the impact of our ConnectED initiative and programs like Everyone Can Create and Everyone Can Code, we launched CEI in 2019 with a focus on expanding learning opportunities in communities that are traditionally underrepresented and under-resourced in technology. Through educational partnerships across the U.S., we've been able to reach tens of thousands of students and educators who might not have had access to our technology and education tools.

CEI partners with K-12 and higher education institutions, community-based organizations, and nonprofits to bring coding, creativity, and workforce development opportunities to educators and learners of all ages. CEI aims to build knowledge and skills for high-demand, high-growth technical careers alongside communities of color to advance educational equity. Our support includes hardware grants, monetary grants to support scholarships and programming, resources for educator training, curriculum development, and employee engagement opportunities.

After starting with 10 communities in 2019, we are now working in dozens of locations around the U.S.—including with 36 HBCUs—to create more coding, creativity, and other learning opportunities. Grounded in the positive relationships that we have created, we are working to deepen our impact in three areas:

- **Educator development:** We're providing educator development and training opportunities to build the knowledge and skills educators need to teach coding in underrepresented communities through Teacher Coding Academies and the CEI Learning Series, in which hundreds of teachers from around the U.S. can meet virtually to share best practices on remote learning. Through our Academies and CEI Learning Series, we are connecting CEI educators with Apple Distinguished Educators from all around the world. Apple Distinguished Educators lead and participate in learning workshops, along with our Apple Professional Learning Specialists.
- **Partnerships:** We're partnering with nonprofits, NGOs, and community-based organizations that provide out-of-school-time learning experiences.
- **Supporting minority-serving institutions:** We're especially focused on expanding our engagement with minority-serving institutions, including HBCUs, HSIs, and tribal colleges and universities, as well as community colleges and public schools in underserved communities.



Read more about how we [design our products to support education](#) (p29).

Apple Developer Academy

As the app economy continues to grow, we're investing in educational programs and opportunities that prepare learners of all ages for the jobs of the future. The Apple Developer Academy partners with educational institutions to create an immersive 10- to 12-month program that enables up-and-coming developers to apply the latest technologies, build their businesses, and market their ideas globally.

In 2013, we started the Apple Developer Academy to empower entrepreneurs, creators, and coders by helping them cultivate the skills necessary to pursue new career opportunities. The program focuses on communities with high youth unemployment and is open to anyone, regardless of academic background or experience. The program also seeks to attract women to software development, a field where they're grossly underrepresented. In seven years, participation among women in the Apple Developer Academy has grown from 6 to 36 percent.

Currently available in several countries, Apple Developer Academy consists of:

- **The Foundation Program:** A 30-day introductory program designed for learners considering app economy careers and looking to better understand what it means to be a developer. This program plays a critical role in sparking interest among the next generation of developers and bringing diverse representation to the growing app ecosystem, particularly among women and individuals from underrepresented communities.
- **The Academy:** An intensive 10- to 12-month program that helps aspiring developers build the skills needed to participate in opportunities within the app economy and even start their own businesses. In addition to partnering with institutions, the Academy works closely with employers to provide direct pathways to career opportunities.

Our 22 Foundation Programs and 17 Academies include close collaborations with institutions that provide content and experience opportunities.

Entrepreneur Camp

Research shows that female and Black business founders and leaders face specific challenges in the technology sector. That's why we created Apple Entrepreneur Camp, an immersive tech lab for app-driven companies founded and led by developers from underrepresented backgrounds. The camp offers one-on-one guidance from Apple experts and engineers, mentorship from Apple leaders, and ongoing support through a growing alumni community.

Apple held its first-ever Entrepreneur Camp in 2019 with a class of women founders and developers. As part of our ongoing commitment to dismantle barriers to opportunity, in early 2021 we welcomed leaders and their teams from 13 app companies as the inaugural cohort of our Entrepreneur Camp for Black Founders and Developers.

Affordable Housing Initiative

Through our Affordable Housing Initiative, announced in 2019, we have made a comprehensive \$2.5 billion commitment to address the housing availability and affordability crisis in California. Together with government and community-based organizations, the initiative has sought to jump-start long-term developments, help first-time buyers purchase homes, and support new housing and related programs to alleviate homelessness. To date, we have deployed more than \$1 billion supporting projects and communities in more than 25 counties across California.



As of July 2021, Apple has deployed more than \$1 billion toward affordable housing projects and homeowner assistance programs in California this year, including this Charities Housing Development Corporation project in San Jose, financed in partnership with Housing Trust Silicon Valley..

1500+

apps on the App Store were created by Apple Developer Academy graduates.

160+

new companies have been founded by Apple Developer Academy graduates.

51

nationalities are represented among Apple Developer Academy graduates.

In partnership with the California Housing Finance Agency (CalHFA), Apple has provided mortgage and down payment assistance to thousands of first-time buyers with low and moderate incomes, with additional benefits for teachers, veterans, and firefighters. Apple has also partnered with CalHFA to launch an affordable housing investment program, the first of its kind in California, which has increased the availability of funding to develop and build very low- to moderate-income housing at a lower cost. And we are supporting several new affordable housing projects funded through our partnership with the Housing Trust Silicon Valley.

Many of the new units are reserved for veterans, the homeless or formerly homeless, and residents with developmental disabilities.

Apple's Affordable Housing Initiative also includes a partnership with Destination: Home, which has helped fund the construction of thousands of new units of affordable and supportive housing for the most vulnerable populations across Silicon Valley. With our support, Destination: Home has also been able to expand its Homelessness Prevention System to keep thousands of families from losing their homes each year.

\$2.5B

We've committed \$2.5 billion toward projects that address housing affordability and availability in California.

Community investments

We invest in communities through donations to nonprofit organizations as well as through strategic investments. Over the past three years, we've committed over \$3 billion toward donations and values-focused investments such as our Affordable Housing Initiative, REJI, clean energy investments, and the Apple Restore Fund. Strategic investments are often multiyear commitments in which Apple plays a substantive role in the project development. We see an important opportunity to continue to invest our capital for good. While donations and investments are accounted for separately, we undertake both with one common goal: to create meaningful change in communities around the world.

Our corporate donations seek to accelerate social change by supporting organizations that are addressing society's toughest problems. We empower employees to contribute to the causes they care about by amplifying their efforts through matching their donations. Our swift response to the COVID-19 crisis, which included over \$120 million²³ in donations, is a reflection of our commitment to being a source of relief and recovery in the face of global challenges.

Corporate donations

Since fiscal year 2015, Apple has donated over \$1 billion²⁴ to create positive change in communities across the globe.²⁵ Whether it's racial injustice, food insecurity, a natural disaster, or a health emergency, our community giving program is agile enough to allow us to respond in a timely, efficient, and effective way. We support nonprofit organizations in a variety of ways, including financial resources and Apple technology and expertise from our teams.

Accelerating social change

We have designed our corporate donations to address immediate needs and to build community resilience. Recent work includes launching our REJI commitment to further racial equity and justice, donating to the COVID-19 response, including financial support and helping to source PPE, and addressing housing scarcity and homelessness in California through our Affordable Housing Initiative.

\$3B+

In the past three years, we've committed over \$3 billion in strategic, values-based investments and community donations.

In 2006, Apple joined (RED)'s mission to end the HIV/AIDS epidemic in sub-Saharan Africa, and over the last 14 years our partnership has delivered almost \$250 million in donations for the Global Fund's HIV/AIDS programs for prevention, testing, and counseling. Since 2006, Apple-supported grants have provided over 10.8 million people with care and support services, helped distribute more than 167 million HIV tests, and provided 13.8 million people with ongoing access to life-saving antiretroviral treatment. COVID-19 has created challenges in accessing care, diagnostics, and supplies, often disrupting crucial HIV/AIDS programs. At the onset of the pandemic, contributions to (RED) were redirected to the Global Fund's COVID-19 Response to help alleviate the impact of the virus on the communities most affected by HIV/AIDS and provide critical support in health systems threatened by the outbreak.

Strengthening communities

We believe we can have an impact on communities by supporting grassroots organizations that work directly with local stakeholders. We focus our donations on programs that are building strong communities and empowering creatives in the places where we live and work. Over the past several years, Apple has offered more than 70 small grants across 12 countries—broadening our impact and bolstering essential community work around the world. The grants provide support for museums, music programs, art and technology education, and storytelling organizations. In partnership with Today at Apple and local community groups, we launched Today at Apple Creative Studios, a global program to develop the creative skills of young people from underinvested communities in 11 cities, with 23 nonprofit partners.

Amplifying Apple's values

We are always looking for ways to support efforts that align with our Apple values. In 2018, Apple became Malala Fund's first Laureate partner, supporting the organization's work with local advocates and teachers in eight countries where girls face significant education challenges. The Fund champions every girl's right to 12 years of safe, free, quality education. Apple also assists with technology, curriculum, and research into policy changes related to girls' education. The partnership has since expanded, and in Brazil Apple's 10 Developer Academies now work with Malala Fund to further advance girls' education opportunities. Since engaging in this powerful partnership, Apple has committed to donating more than \$15 million to the Fund.

Total corporate donations

(excluding strategic investments)

FY18:

\$125M+

FY19:

\$190M+

FY20:

\$250M+

Today at Apple Creative Studios, Grand Paris

Formerly titled Made In Grand Paris, this Apple program was a partnership in February 2021 with 1000 visages, an organization dedicated to bringing film industry opportunities to youth from underrepresented communities in France. With the support of an Apple grant, 1000 visages will extend its curriculum over the next three years and secure a permanent space to launch a free cinema school. They are equipped with iPhone, iPad, and Mac hardware and accessories so they can provide ongoing support to their young members by lending out these creative kits. Our Today at Apple Creative Pro team across France will also deliver annual dedicated sessions to support youth in their creative film projects.



Dounia Larkoub in a scene from TOC TOC, a film she created with other participants in the program.

To continue promoting diversity across the tech sector, Apple has long-standing commitments with Thurgood Marshall College Fund (TMCf) and the National Center for Women & Information Technology (NCWIT), among others. The Apple Scholars program provides scholarships and mentorship to students from underrepresented backgrounds. In partnership with TMCf, this year Apple welcomed its sixth cohort of Apple HBCU Scholar interns, representing students from nearly 20 HBCUs. Our partnership with TMCf was announced in 2015 as a \$40 million multiyear commitment.

Through donations, Apple works with a diverse set of partners to enhance environmental protections and support global communities. For example, for the launch of the Apple TV+ documentary *The Elephant Queen*, Apple partnered with Conservation International and Save the Elephants to support community-based elephant conservation in Kenya—including improved elephant tracking and the Reteti Elephant Sanctuary.

Apple also celebrated the 104th birthday of the national parks with a donation to the National Park Foundation. With support from Apple, the National Park Foundation's youth programs have given thousands of young people the chance to learn about and experience the parks through school activities, trips, and service corps programs. These programs include efforts to expand access to education, bring youth from underserved communities into the parks, and recruit interns from HBCUs.

Employee giving

Our Employee Giving program provides opportunities for employees to contribute to the causes they care deeply about with the support of Apple. From volunteering to donations to smaller individual actions, Apple is committed to giving, hand in hand with our team members. Our program promotes charitable giving to qualified organizations by matching donations of time, money, or Apple products.



Apple team members paint a mural at a school in Hong Kong as part of Apple's Employee Giving program.

Since the program's inception in 2011, Apple employees have helped raise nearly \$600 million in total donations across 34,000 organizations, and volunteered more than 1.6 million hours.²⁶

Giving time

Apple matches \$25 per hour volunteered with a qualified organization. Some of the ways employees give their time include lending skills in person or online, mentoring youth, and participating in outdoor cleanups or other local events with nonprofit organizations.

Giving a donation

When our employees donate money, Apple matches their donations. That way, every contribution goes further, every act inspires another, and every effort is amplified. Apple matches donations year-round, but in times of greater need, we have often increased the match cap up to \$20,000 per employee.

400,000+

Employee volunteer hours in FY20.

53,000+

of employee donors²⁷ in FY20.

Job creation

Apple supports millions of jobs in countries around the world, across North America, Europe, Asia, Central and South America, Australia, and Africa. In the U.S., Apple is one of the biggest job creators, and we continue to expand our commitment to fostering innovation and opportunity in the U.S. economy. We support 2.7 million jobs across all 50 states²⁸ through direct employment, spending with U.S. suppliers and manufacturers, and the iOS app economy. Earlier this year, Apple announced an acceleration of its U.S. investments, with plans to make new contributions of more than \$430 billion and add 20,000 new jobs across the country over the next five years. This includes a new North Carolina campus, which will create at least 3000 new jobs in machine learning, artificial intelligence, software engineering, and other cutting-edge fields. In Europe, where we've been operating for more than 35 years, we support more than 1.8 million jobs, a 25 percent increase since 2016.

Employees

Apple has 160,000 employees worldwide that span an increasingly wide range of roles, including hardware and software engineering, science, construction, manufacturing, retail, customer support, marketing, and design.

Suppliers and manufacturers

Apple has a supply chain that spans the globe, with manufacturing and assembly taking place around the world, including in the U.S., Europe, Asia, Central and South America, and Australia. From component manufacturers to logistics providers,

Apple directly or indirectly supports hundreds of thousands of jobs, working with suppliers and businesses in all 50 states in the U.S. and every European country. These suppliers provide equipment, parts, and materials for all of our core products.

Jobs in the app economy

Since the App Store launched in 2008, the iOS app economy has become one of the world's fastest-growing sectors. Throughout the challenges of the COVID-19 pandemic, the App Store continued to provide economic opportunities to entrepreneurs. The App Store ecosystem supports millions of jobs across the world, empowering entrepreneurs from Argentina and Alaska to Zimbabwe and beyond. In the U.S., it supports more than 2.1 million jobs, an increase of 15 percent since last year, and in Europe, it supports another 1.7 million jobs.

In January 2021, we launched the App Store Small Business Program, which benefits the vast majority of developers who sell digital goods and services on the App Store. The new program cuts the App Store commission in half—to 15 percent—for small businesses that earned up to \$1 million in proceeds during the previous year. The reduced commission means small developers have more resources to create new jobs, expand their businesses, explore cutting-edge technologies, and pioneer new app innovations that reach users around the world.



Apple Developer Program membership is available at no cost for eligible nonprofit organizations, accredited educational institutions, and government entities that will distribute only free apps on the App Store.²⁹

In July 2020, Apple opened its second and largest retail location in Thailand, nestled in the heart of Ratchaprasong, Bangkok's iconic intersection.

Our Business

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At Apple, we're committed to conducting business ethically, honestly, and in full compliance with the law. We believe that how we conduct ourselves is as critical to Apple's success as making the best products in the world. Our Business Conduct and Compliance policies are foundational to how we do business and how we put our values into practice every single day.



For more information on Apple's business, read Apple's [Form 10-K](#) and our [2021 Proxy Statement](#).

Corporate governance

Our corporate governance structure is designed to foster principled actions, informed and effective decision-making, and appropriate monitoring of compliance and performance, assuring that the long-term interests of shareholders are being served.

Board oversight

Members of our Board of Directors take a proactive, focused approach to their positions to ensure that Apple is committed to business success through the maintenance of high standards of responsibility and ethics. Annual board evaluations—including self-evaluations and peer reviews—are led by the independent Chairman and overseen by the Nominating and Corporate Governance Committee and drive accountability at the Board level.

Apple's Board has a standing Audit and Finance Committee, Compensation Committee, and Nominating and Corporate Governance Committee.³⁰

The Board and its committees review and discuss with management progress relating to Apple's values. Further, the Board and its committees also review and discuss Apple's commitments and progress on inclusion and diversity, employee engagement, compensation and benefits, and compliance. During 2020, the Board and its committees engaged with management on the impact of COVID-19 on Apple's employees, supply chain, and business. The Board reviewed strategies and initiatives to respond to, and mitigate, adverse impacts, including enhanced health and safety measures for Apple employees as well as workers in our supply chain.

Apple also has internal systems and procedures for managing environmental, social, and governance (ESG) topics, including with external stakeholders to learn about their priorities and get their feedback and to coordinate relevant projects and initiatives. Work on environmental and social initiatives is embedded across different lines of business, with broad collaboration to drive forward initiatives that are important to Apple.

Selected areas of Board and committee oversight in 2020

	Audit and Finance Committee	Compensation Committee	Nominating and Corporate Governance Committee	Full Board of Directors
Corporate and Product Strategy				●
Enterprise Risk Management	●			●
Legal and Regulatory Compliance	●			●
Tax	●			●
Privacy and Data Security	●			●
Environment	●			●
COVID-19 Response	●	●		●
People		●		●
Inclusion and Diversity			●	●
Governance and Stakeholder Engagement			●	●
Board and Executive Succession			●	●

Board diversity and refreshment

Apple's Board consists of a diverse group of highly qualified leaders in their respective fields. Among our eight Board members, three self-identify as women, and four self-identify as individuals from underrepresented communities.³¹

In 2021, Monica Lozano, President and CEO of College Futures Foundation, joined Apple's Board of Directors. Ms. Lozano brings a broad range of leadership experience in the public and private sectors, as well as a long and storied track record as a champion for equity, opportunity, and representation.

Executive compensation

Our executive compensation program is built on sound compensation policies and practices and clear guiding principles that align executive compensation with our shareholders' interests.

We manage Apple for the long term. Consistent with this approach, beginning in 2021, an ESG modifier based on Apple's values and other key community initiatives has been incorporated into our annual cash incentive program. This change is intended to further motivate Apple's executive team to meet exceptionally high standards of values-driven leadership in addition to delivering strong financial results.

50%

of leadership positions on our Board are held by women.

50%

of our directors are from underrepresented communities.

Our commitment to human rights

Our commitment begins with treating everyone with dignity and respect. But it doesn't end there. We believe in the power of technology to empower and connect people around the world—and that business can and should be a force for good.

Apple's Human Rights Policy

Our Human Rights Policy governs how we treat everyone, including our customers, employees, business partners, and people at every level of our supply chain.

We are deeply committed to respecting internationally recognized human rights in our business operations, as set out in the United Nations (UN) International Bill of Human Rights and the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work. Our approach is based on the UN Guiding Principles on Business and Human Rights (UNGPs). We conduct human rights due diligence to identify risks and work to mitigate them. We also seek to remedy adverse impacts, track and measure our progress, and report our findings.

Our Board of Directors adopted the policy and is responsible for overseeing and periodically reviewing it. Apple's Senior Vice President and General Counsel is responsible for its implementation, and reports to the Board and its committees on our progress and significant issues.

Embedding respect for human rights

We've worked hard to embed respect for human rights across our company—in the technology we make, the way we make it, and how we treat people. A number of teams are responsible for carrying out human rights due diligence, including the Privacy, Corporate, and Compliance teams within Apple's Legal and Global Security organization—and Apple's Environment and Supply Chain Innovation (ESCI) team within Worldwide Operations.

Identifying and managing salient human rights risks

Identifying human rights risks is the first step to addressing those risks through improvements to our policies and management systems. We work to align our efforts with the business and human rights due diligence process set forth in the UNGPs to identify, mitigate, prevent, and remedy human rights risks.

We identify salient human rights risks through internal risk assessments and external industry-level third-party audits, as well as through the channels we maintain with rights holders and other stakeholders, including investors, human rights and labor experts, governments, and international bodies such as the UN.

In addition to our own internal monitoring, we consider reports identifying potential risks from external sources, including international organizations, policymakers, shareholders, civil society organizations, news outlets, customers, individuals in the supply chain or supply chain communities, whistleblower mechanisms, and third-party hotlines. They also come through the reporting mechanisms we make available directly to all supplier employees, Apple employees, and the general public. These reports can come to us in any language and can be anonymous.

Based on this due diligence, examples of human rights issues of particular focus at Apple include:

- Privacy, freedom of expression, and access to information risks
- Discrimination risks in workforce management and in product and services development
- Labor and human rights risks in the manufacturing supply chain, including freedom of association and collective bargaining, risks of involuntary labor, and discrimination

We work to avoid, prevent, mitigate—and where appropriate, remediate—human rights issues and impacts across Apple's business, including through our commitments to:

- Respecting the rights to privacy, freedom of expression, and access to information
- Promoting diversity, equity, and inclusion, including in our workforce, leadership, product and services development, and in our industry
- Respecting labor and human rights in our manufacturing supply chain, including freedom of association, collective bargaining, and the rights to be free from modern slavery and discrimination
- Respecting human rights through our efforts to protect the planet in how we design, build, and recycle our products, and through responsible sourcing and use of materials and natural resources

Tracking progress

We're committed to continually assessing our progress and incorporating what we learn into our work. We track and measure our performance across a range of areas, and apply the lessons we learn to continually improve. We publicly report detailed information on our approach and our performance in several areas, including:

- [Privacy Transparency Report and Privacy Governance web page](#)
- [Inclusion and Diversity web page](#)
- [People and Environment in Our Supply Chain: Annual Progress Report](#)
- [Efforts to Combat Human Trafficking and Slavery](#)
- [Conflict Minerals Report](#)

98%+

Employees completing business conduct training in calendar year 2020.

Ethics and compliance

Apple is committed to conducting business ethically, honestly, and in full compliance with applicable laws and regulations.

Business conduct and compliance

Apple's Business Conduct Policy provides a guide to our ethical requirements for our employees. The Policy includes our commitment to respect human rights and the principles that guide our business practices—honesty, respect, confidentiality, and compliance. Apple expects its suppliers, contractors, consultants, and other business partners to follow these principles when providing goods and services to Apple or acting on our behalf.

Apple's Business Conduct and Global Compliance team focuses on business conduct, political compliance, export and sanctions compliance, health compliance, antitrust compliance, and anti-corruption compliance. Additional compliance functions are integrated into our business organizations.

Business Conduct and Global Compliance conducts internal and third-party independent assessments of its programs, as needed, to ensure they are effective. We make changes to our policies and our training to reflect emerging trends. Apple's Chief Compliance Officer provides regular updates to the Board's Audit and Finance Committee on the work done by the Business Conduct and Global Compliance programs and other compliance functions.

Training

Our employees take our values seriously, and our training helps guide them in making good decisions. Topics include workplace behaviors, conflicts of interest, gifts, confidentiality, competition, privacy, and Apple's Human Rights Policy. We offer additional resources for employees to address questions and concerns, including the Business Conduct Helpline and the Business Conduct website.

All employees also get mandatory annual or biannual training on Privacy, Respect at Apple, and Inclusion and Diversity. Employees receive between two and five hours of training annually, depending on location and the risks and responsibilities of their role. Additional required and recurring training includes Anti-Corruption, Antitrust, Export and Sanctions, and manager-specific training. Our Board also regularly receives training and updates on ethics and compliance at Apple.

Managers get supplementary resources and training on topics such as disability awareness and accommodations, discriminatory behavior, and their responsibilities to receive and report all allegations of misconduct. Apple also trains eligible contractors on our expectations for ethical behavior; topics include workplace behaviors, secrecy, privacy, and important laws.

Compliance policies

Apple's ethical business practices are set out in our Business Conduct Policy and additional key compliance policies.

Anti-corruption

Apple does not tolerate any form of corruption by Apple employees or by third parties when providing goods or services to Apple or acting on our behalf. Apple's [Anti-Corruption Policy](#) details our commitment to complying with anti-corruption laws. If employees are unsure of the proper course of action, or whether something constitutes corruption, we encourage them to contact our Business Conduct team.

Export and sanctions

Apple is committed to compliance with applicable export and sanctions laws. All employees are responsible for complying with these laws and reporting possible violations.

Antitrust and competition

Apple is committed to conducting business in full compliance with competition laws around the world. Misconduct and violations of Apple's [Antitrust and Competition Law Policy](#) and the law must immediately be reported to our Antitrust

Compliance Officer or to the Business Conduct Helpline. Apple's Antitrust Compliance Officer regularly reports to the Board on matters including the Antitrust Compliance Program's alignment with potential risks and its effectiveness in addressing issues and promoting legal compliance.

Public policy advocacy

Apple engages in policy discussions where they matter to our business and customers. Our Public Policy Advocacy website defines our position on corporate political contributions and describes how Apple participates in public debate in the United States through direct and indirect advocacy.

Apple does not make political contributions to individual candidates or parties, and we do not have a political action committee. Any political contributions made by Apple are made in the interests of the company and without regard for the private political preferences of individual executives or employees. Political contributions are promptly reported publicly on Apple's website.

Reporting concerns

Our employees are required to speak up about any violation of Apple's Business Conduct Policy, other Apple policies, or legal or regulatory requirements, and we make it easy for employees and third parties to report concerns.

Our employees can contact Apple's Business Conduct team by phone, email, or web form. Apple's [external helpline](#) is available to employees and external parties to report concerns, and also provides the option of anonymous reporting, where permissible. The external helpline is available 24/7, and provides a multilingual reporting service with local, toll-free numbers.

Business Conduct partners with appropriate teams at Apple to investigate concerns and determine appropriate resolutions, including corrective action up to and including termination where necessary. Apple will not retaliate—and will not tolerate retaliation—against any individual for reporting a good-faith concern or complaint, or for participating in the investigation of any complaint.

555,000

Apple training courses completed in 2020.

296,000+

Hours spent on Apple-recommended and required trainings in 2020.



For more information about Apple's business compliance programs, read Apple's [Ethics and Compliance](#) website.

Tax payments

Taxes play a necessary and important role in our society and Apple believes every corporation has a responsibility to pay all the taxes they owe. As the largest taxpayer in the world, we comply with the law wherever we operate and pay taxes on everything we earn around the world. Over the past decade, Apple has paid more than \$100 billion in corporate income taxes—and our annual effective tax rate was 23 percent on average.³²

The Audit and Finance Committee of the Board of Directors regularly reviews and discusses Apple's tax payments with management. The committee reviews reports on tax matters from Apple's Chief Financial Officer, General Counsel, the heads of global Tax, Business Assurance, and Internal Audit, and from Apple's independent auditor. These reports include, among other matters, updates on significant domestic and international tax-related developments, worldwide tax audits, international tax structure, international tax policy, and other tax-related legislative matters.

Stakeholder engagement

Apple engages with stakeholders as part of our commitment to advance meaningful change and find novel solutions to pressing challenges. Every day, at all levels of the business, we interact with a variety of stakeholders to listen and learn from others' perspective and experiences, share our progress, and promote best practices.

Throughout the year, we proactively engage with shareholders and other stakeholders. These engagements help us understand their perspectives on significant issues, from company performance, strategy, and corporate governance to executive compensation and other ESG topics. We take feedback and insights from our engagement with all stakeholders into consideration as we review and enhance our operations and disclosures, sharing them with our Board as appropriate.

The following are examples of stakeholder groups that we actively engage with throughout the year, as described in this report and in the sources that we have referenced throughout:

- Colleges and universities
- Communities
- Customers
- Employees
- Governments
- Human rights and environmental defenders
- Investor advisory groups
- Labor organizations
- NGOs
- Rights holders
- Shareholders and investors
- Standards bodies
- Suppliers
- United Nations and other international organizations



Appendix

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Awards and recognition



Alliance for Water Stewardship:
World's First AWS Certified
Data Center



"A" rating on
CDP Climate
Change



Safer Choice Partner
of the Year award
from the EPA (2020)



Financial Times Innovative
Lawyers Award for
Inclusion, Diversity and
Social Justice (2020)



Apple has made the top 10 of the
Top HBCU Supporters List. Ratings
are a result of voting by HBCU
Engineering Deans (2021)



Human Rights Campaign
Corporate Equality Index,
19th year in a row that we
received a perfect score



Apple awarded the first Corporate
Information Transparency Index
Master's Level designation by
China's Institute of Public and
Environmental Affairs (IPE)



JUST Capital ranking
(1st in Industry)



A+ Mind the Store
(2020): Recognized for
the 3rd year in a row



OMNIKAL Top 50
Corporation for Inclusion
in Procurement (received
for past 5 years)



RE100 Leadership
Award for Best Green
Catalyst (2020)



Thomson Reuters
Stop Slavery Award
(2018)











UN Climate Action
Award (2019)



Women's Enterprise
USA Magazine—
Best of the Decade in
Supplier Diversity (2019)

United Nations Sustainable Development Goals

We believe businesses have an important role to play in creating peace and prosperity for people and the planet, now and into the future. Initiatives across Apple help advance a number of the Sustainable Development Goals set out by the 193 Member States of the United Nations.

UN Sustainable Development Goal	Apple's supporting initiatives
 Goal 1 End poverty in all its forms everywhere	<ul style="list-style-type: none"> Affordable Housing Initiative Community Education Initiative Supplier Standards relating to minimum wages and benefits Commitment to competitive minimum wage Support for Malala Fund Donations help to alleviate poverty
 Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<ul style="list-style-type: none"> Donations to food banks, soup kitchens, and meals on wheels
 Goal 3 Ensure healthy lives and promote well-being for all at all ages	<ul style="list-style-type: none"> Support for product (RED) Our work to promote health Smarter chemistry in our products Environmental, health, and safety practices at Apple and at supplier facilities
 Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<ul style="list-style-type: none"> Our work to support education Racial Equity and Justice Initiative Community Education Initiative Apple Developer Academy Supplier programs to promote education and professional development Support for Malala Fund
 Goal 5 Achieve gender equality and empower all women and girls	<ul style="list-style-type: none"> Gender pay equity and diversity policies and programs Anti-human trafficking policy and programs Supplier diversity programs Support for Malala Fund
 Goal 6 Ensure availability and sustainable management of water and sanitation for all	<ul style="list-style-type: none"> Apple's water stewardship programs at our facilities and in our supply chain Apple's Restore Fund and support for ecosystem restoration and protection projects Responsible packaging initiatives
 Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all	<ul style="list-style-type: none"> 100% renewable energy for Apple facilities Supplier Clean Energy Program Supplier Energy Efficiency Program Power for Impact program
 Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<ul style="list-style-type: none"> Job creation and economic contributions of app store ecosystem Supplier diversity programs Racial Equity and Justice Initiative, including Apple's Impact Accelerator Our commitment to a highly competitive wage Gender pay equity and diversity policies and programs Programs to respect labor and human rights in our manufacturing supply chain Anti-human trafficking policy and programs Apple's goal to create carbon neutral products made of only recycled or renewable materials

UN Sustainable Development Goal		Apple's supporting initiatives
	Goal 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	<ul style="list-style-type: none"> • Job creation • Commitment to combat the housing crisis in California • Supplier Clean Energy Program • Apple's procurement and generation of 100% renewable energy for its facilities • Apple's R&D investments in and creation of new technology • Apple's goal to create carbon neutral products made of only recycled or renewable materials
	Goal 10 Reduce inequality within and among countries	<ul style="list-style-type: none"> • Inclusion and diversity at Apple • Racial Equity and Justice Initiative • Our commitment to a highly competitive wage • Supplier diversity programs • Training supplier employees on their rights and for professional development
	Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable	<ul style="list-style-type: none"> • Commitment to combat the housing crisis in California
	Goal 12 Ensure sustainable consumption and production patterns	<ul style="list-style-type: none"> • Transitioning all materials in Apple's products and packaging to recycled and renewable sources • Advancing zero waste initiatives at our facilities and in our supply chain • Incorporating smarter chemistry in our products • Advancing smarter chemistry in manufacturing • Product trade-in and recycling programs
	Goal 13 Take urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> • Our ambitious goals and programs to mitigate climate change, including our commitment to carbon neutrality for all of our products by 2030 • Advocating for strong climate change policy
	Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development	<ul style="list-style-type: none"> • Reducing our impact on ocean acidification through our climate change mitigation activities • Mangrove conservation
	Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	<ul style="list-style-type: none"> • Responsible packaging initiatives • Apple's Restore Fund and support for ecosystem restoration and protection projects
	Goal 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<ul style="list-style-type: none"> • Racial Equity and Justice Initiative, criminal justice reform • Supplier Code of Conduct (anti-corruption and non-discrimination practices) • Apple's Business Conduct Policy and Practices • Supplier diversity programs • Inclusion and diversity at Apple
	Goal 17 Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	<ul style="list-style-type: none"> • Developing solutions to global challenges is never an easy journey, and it isn't one that can be undertaken alone. We pursue partnerships with organizations around the world to further efforts to make the world better. These partnerships are described throughout this report and on apple.com.

About the report

Reporting year: This report focuses primarily on fiscal year 2020 activities, unless otherwise noted. All references to a year throughout the report refer to Apple's fiscal years, unless "calendar year" is specified. Apple's fiscal year is the 52- or 53-week period that ends on the last Saturday of September.

Alignment to reporting frameworks: The report leverages reporting frameworks and standards such as the Global Reporting Initiative (GRI), Sustainable Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD). Apple's ESG Index maps the disclosures in this report and other Apple publications against the metrics in these reporting frameworks, as relevant to our business.

Data assurance: We obtain third-party verification for our Scope 1, 2, and 3 greenhouse gas emissions, as well as our energy use, paper use, and waste and water impacts for our data centers, offices, and retail stores worldwide. Apex Companies (Apex) provides "reasonable assurance"—one of the highest levels of verification in the industry—for this environmental impact data. See the assurance statement for general environmental impact data. Scope 3 renewable energy production and avoided carbon emissions related to our Clean Energy Program are also verified to a level of "limited assurance" by Apex. See the assurance statement for data specific to the supplier Clean Energy Program. Scope 3 greenhouse gas emissions related to our products, calculated using life cycle assessment, are checked for quality and accuracy by the Fraunhofer Institute in Germany in accordance with the internationally recognized ISO 14000 environmental management standards: ISO 14040 and 14044. See the Fraunhofer statement. Data in this report reflects estimates using methodologies and assumptions believed to be reasonable and accurate. Those estimates, methodologies and assumptions may change in the future as a result of new information or subsequent developments.

Forward-looking statements: The report does not cover all information about our business. References in this report to information should not be construed as a characterization regarding the materiality of such information to our financial results or for purposes of the U.S. securities laws. The information covered by the report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding our ESG goals, commitments, and strategies and related business and stakeholder impacts. These statements involve risks and uncertainties, and actual results may differ materially from any future results expressed or implied by the forward-looking statements, including any failure to meet stated ESG goals and commitments, and execute our strategies in the time frame expected or at all, as a result of many factors, including changing government regulations, and our expansion into new products, services, technologies, and geographic regions. More information on risks, uncertainties, and other potential factors that could affect our business and performance is included in our filings with the SEC, including in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of the company's most recently filed periodic reports on Form 10-K and Form 10-Q and subsequent filings. We assume no obligation to update any forward-looking statements or information, which speak as of their respective dates.

Imagery: All photographs in the report showing people without masks were taken prior to the COVID-19 pandemic or in accordance with Apple and other local COVID-19 protocols.



View Apple's Environmental, Social, and Governance Index [here](#).

Notes

- 1 The Science Based Targets initiative (SBTi) recently validated Apple's emissions reduction target: 61.7 percent by 2030 relative to our 2019 emissions. This SBTi-approved target is derived from our current target—to reduce emissions by 75 percent by 2030—only with a 2019 base year, instead of 2015.
- 2 Based on sales-weighted averages of Mac, iPad, iPhone, Apple Watch, Apple TV, HomePod, AirPods, and Beats.
- 3 Eligible products are those in a product category for which ENERGY STAR certification exists. For more information, visit www.energystar.gov. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency.
- 4 Annualized metric tons of supply chain carbon compared to fiscal year 2019 metrics. In previous environmental progress reports, this metric was reported based on calendar year data.
- 5 The Impact Accelerator is a capacity-building program for companies that are at least 51 percent owned, operated, and controlled by an African American, Hispanic American/Latinx, or Indigenous American individual.
- 6 Includes all devices collected by Apple for refurbishing during fiscal year 2020.
- 7 This total includes freshwater use as well as alternative water sources, including recycled water, rainwater, and recovered condensate. We define freshwater as drinking-water quality, the majority of which comes from municipal sources and less than 5 percent comes from onsite groundwater sources. Recycled water represents a key alternative water source. Our recycled water is sourced primarily from municipal treatment plants, with less than 5 percent from onsite treatment. Recycled water is primarily used for irrigation, make-up water in cooling, or toilet flushing. Other alternative sources of freshwater include rainwater and recovered condensate that is captured onsite. Water used for construction for activities like dust control is not included in this total, and represents 8 million gallons of water used in fiscal year 2020. Our actual water discharge may vary by 10 percent relative to our estimates. In these estimates, we've taken into account consumptive activities, including irrigation and cooling towers.
- 8 These savings do not include reduction in water use from facility closures and reduced occupancy due to the COVID-19 pandemic. We consider those savings temporary and also acknowledge that the water use was transferred to employees' homes.
- 9 All established final assembly supplier sites—or those that have been Apple suppliers for more than one year—for iPhone, iPad, Mac, Apple Watch, AirPods, HomePod, Apple TV, and Beats are third-party certified as Zero Waste by UL LLC (UL 2799 Standard). UL requires at least 90 percent diversion through methods other than waste to energy to achieve Zero Waste to Landfill (Silver 90–94 percent, Gold 95–99 percent, and Platinum 100 percent) designations.
- 10 Though we do not use the Federal Employer Information Report EEO-1 to measure progress, our most recent filing is publicly available on our [Inclusion & Diversity](https://www.apple.com/diversity) website. Our annual EEO-1 reports have been made available since 2015.
- 11 Apple benefit programs vary by country, and are subject to eligibility requirements, and may be modified from time to time. Many programs extend to full-time and part-time employees globally, but there can be significant variations by country due to local law.
- 12 Free, confidential counseling for employees and eligible dependents, subject to annual limits.
- 13 Family and reproductive healthcare benefits described in this report are specific to U.S. employees.
- 14 As of July 28, 2021.
- 15 As of July 28, 2021.
- 16 Includes donations through the third quarter of fiscal year 2021.
- 17 As of August 2021.
- 18 Based on surveys conducted by 451 research in the U.S.
- 19 Net Promoter®, NPS®, NPS Prism®, and the NPS-related emoticons are registered trademarks of Bain & Company, Inc., Satmetrix Systems, Inc., and Fred Reichheld. Net Promoter ScoreSM and Net Promoter SystemSM are service marks of Bain & Company, Inc., Satmetrix Systems, Inc., and Fred Reichheld.
- 20 Apple's Supplier Diversity program has received or contributed to Apple's receipt of dozens of awards and recognition in the last 10 years, including "Best of the Decade in Supplier Diversity" by *Women's Enterprise USA Magazine* (2019), and the "Top 50 Corporations for Inclusion" by OMNIKAL (2021).
- 21 "Diverse Suppliers" are minority-owned (African American/Black, Indigenous, Hispanic/Latinx, Asian Pacific, and Asian Indian), women-owned, veteran-owned, service-disabled veteran-owned, LGBTQ+-owned, and disabled-owned.
- 22 50,000 minority owned business in Detroit.
- 23 Includes donations through the third quarter of fiscal year 2021.
- 24 Includes donations through the third quarter of fiscal year 2021.
- 25 Aggregate donations from fiscal year 2015 through June 2021.
- 26 Employee giving figures reflect data as of the end of fiscal year 2020.
- 27 Number of employees that received matching contributions from Apple—monetary, product, and/or volunteer time.
- 28 Job creation estimate based on research by Dr. Michael Mandel, Progressive Policy Institute, August 2020.
- 29 Membership fee waivers for the Apple Developer Program are limited to eligible regions listed on <https://developer.apple.com/support/membership-fee-waiver/>
- 30 The Board has determined that all committee members are independent under applicable Nasdaq and Securities and Exchange Commission (SEC) rules for committee memberships, and that each member of the Audit Committee also meets the additional independence criteria set forth in Rule 10A-3(b)(1) under the Securities Exchange Act of 1934, as amended.
- 31 In the context of Apple's Board of Directors, we define underrepresented communities as an individual who self-identifies as Black, African American, Hispanic, Latino, Asian, Pacific Islander, Native American, Native Hawaiian, or Alaska Native, or who self-identifies as gay, lesbian, bisexual, or transgender.
- 32 Total tax payments and average annual effective tax rate reflect data through fiscal year 2020.

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Apple 2021 Env Report



Environmental Progress Report

Covering fiscal year 2020



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Cover photo
This North Carolina solar facility is one of the many energy solutions utilized by Apple’s suppliers to support their commitments to 100 percent renewable energy for Apple production.

Our year in review

Developing solutions to global challenges is never an easy journey, and it isn't one that can be undertaken alone. In a year like no other, Apple has continued to work with a global network of colleagues, companies, and advocates to further our efforts to make our environmental work a force for good in people's lives—and give the communities most impacted by climate change a seat at the table.

As a result, this has been a year of progress powered by collaboration. As a company, we moved ahead with greater urgency than ever before to create a stronger, healthier future for our planet and her people.

In 2020, that meant real progress in our fight against climate change. Apple became carbon neutral for our worldwide operations, and we committed to becoming carbon neutral by 2030 for our entire footprint—from our supply chain to the use of the products we make. Those same products now use more recycled materials than ever, like the 40 percent recycled content in the MacBook Air with Retina display, and the 99 percent recycled tungsten we now use in iPhone 12 and Apple Watch Series 6.

There's an old saying that if you want to go fast, go alone. If you want to go far, go together. Well this year we did both, setting ambitious goals for Apple while helping more than 100 of our suppliers commit to joining our journey to being carbon neutral. That progress was powered by our new renewable energy projects spanning the globe—from an award-winning, 180-acre solar project in Reno, Nevada, to two of the world's largest onshore wind turbines in Denmark.

While we helped bring more than 4 gigawatts of renewable energy online, we doubled down on our efforts to remove carbon from the atmosphere. That included an innovative new partnership with Conservation International and Goldman Sachs called the Restore Fund to invest in working forests, revitalizing ecosystems with the goal of removing 1 million metric tonnes of carbon every year.

Shaping all of this work is Apple's commitment to equity. At this moment of rebuilding, we know we can help spur an economic recovery that tackles systemic barriers to opportunity and empowers local communities—especially the communities most vulnerable to the impacts of climate change.

One way we're doing this is with the Impact Accelerator we launched last year, which invests in minority-owned businesses on the cutting edge of green technology and clean power. The Accelerator is part of our \$100 million Racial Equity and Justice Initiative, which is advancing equitable opportunity in our economy, our schools, and our criminal justice system.

But our commitment to equity goes much further. Everything, from our clean energy investments to our partnerships, considers the impacts on the local community. And we continue to ask ourselves how we can make our work an even greater force for good.

In every case, the answer is to listen, to engage, and to work together. For one of our first solar projects in China, that meant building solar panels high enough above the ground for local farmers' yaks to graze under. In Colombia, it meant partnering with local community, government, and conservation organizations, which help preserve mangrove forests deeply intertwined with the economic and cultural lives of their communities. And in Kenya, it meant bolstering the pioneering work of conservationists supporting sustainable tree farming and preserving savannas degraded by unsustainable land-use practices.

These projects are definitive proof that the fight against climate change is also a fight for local economies, for the rights of indigenous peoples, and for the communities whose lives and livelihoods are most threatened by climate change.

These are systemic and long-standing issues, and we don't pretend to have all the answers. What we do have are goals to strive for, and a global community of businesses committed to doing the right thing by people and the planet. Thank you for your role in our progress to push this urgent work forward.



Lisa Jackson
Vice President,
Environment,
Policy & Social Initiatives

Our environmental strategy

Science drives our environmental strategy. Our ambitions—including our commitment to carbon neutrality by 2030—are defined by data. And so are the three pillars of our strategy: climate change, resources, and smarter chemistry. Our comprehensive carbon footprint informs the work we do to address our climate impact, including our roadmap to carbon neutrality. Within our resources pillar, data on environmental, social, and supply impacts prioritize materials we transition to recycled and renewable sources. And a detailed process of data collection and chemical assessments drives our smarter chemistry innovations. All the work we do aims to improve environmental health, not just for our customers, suppliers, and employees, but also for broader global communities.

Climate Change

We've set a goal to become carbon neutral across our entire footprint by 2030. We will get there by reducing our emissions by 75 percent compared to 2015, and then investing in carbon removal solutions for the remaining emissions.

- Low-carbon design
- Energy efficiency
- Renewable electricity
- Direct emissions abatement
- Carbon removal

Resources

We aim to make products and packaging using only recycled or renewable materials. At the same time, we're committed to stewarding water resources and sending zero waste to landfill.

- Materials
- Water stewardship
- Zero waste to landfill

Smarter Chemistry

Through chemistry innovation and rigorous controls, we design our products to be safe for anyone who assembles, uses, or recycles them—and to be better for the environment.

- Mapping and engagement
- Assessment
- Innovation



Report highlights



Impact Accelerator
empowers Black-
and Brown-owned
businesses addressing
environmental
challenges

100+ suppliers
committed to
100% renewable
electricity



Safer Choice
Partner of the Year
award from
the EPA

100%
renewable energy
sourced for all
Apple facilities

99% recycled
tungsten in iPhone 12
and Apple Watch
Series 6



Carbon neutral
for corporate operations
since April 2020

40%
of all material
in MacBook Air
with Retina display
comes from
recycled sources

Restore Fund will invest up to
\$200M in natural climate solutions



Our shared commitment

We remain committed to our mission of creating products that enrich the lives of our customers. And we're equally committed to doing so in a manner that doesn't deplete the earth's resources. This commitment acknowledges our responsibility for our entire value chain—which extends across our facilities and through the entire life cycle of our products. And it drives our strategy—whether innovating solutions to environmental challenges or creating opportunities for minority-owned businesses and institutions that have been historically disadvantaged. We're striving to enable the type of world we want to live in. That means taking steps to help others reduce their footprint, as well as protect communities that often disproportionately bear the costs of environmental harm.

Only by engaging with others can we meet our ambitious goals and realize the changes our world needs. We learn from the expertise of others, including our Green Chemistry Advisory Board. We seek out those who inspire us, like the Malala Fund, which we support in their work at the intersection of climate change and education. We collaborate to advance our environmental initiatives, like our work with the Platform for Accelerating the Circular Economy (PACE) to promote circular supply chains. And, by sharing our strategy and approach, we aim to maximize the impact of our efforts while empowering others. When our CEO Tim Cook addressed the United Nations' Climate Ambition Summit, he resoundingly reinforced our commitment to transition to a carbon neutral economy and create inclusive opportunities.





"This is no time for changes at the margins. Together, we can transition to a carbon neutral economy and usher in a new era of inclusive opportunity. This is a moment for ambition, cooperation, and leadership."

Tim Cook, CEO
United Nations' Climate Ambition Summit
December, 2020

Climate Change



Goals and highlights

At Apple, we're committed to utilizing our resources as an organization to combat climate change. Our commitment to carbon neutrality by 2030 is both ambitious and necessary. These efforts require innovations at scale—like designing and implementing new technologies, mobilizing financing structures, and rapidly deploying renewable energy. Everything we do is driven by science and the urgency to tackle climate change.

Goals

Achieve **carbon neutrality** for our entire carbon footprint by 2030, and reach our science-based emissions reduction target

Create products with **net zero carbon** impact by 2030


Highlights




Carbon neutral for corporate operations since April 2020




15M metric tons of emissions avoided due to carbon reduction initiatives




100% renewable energy sourced for all Apple facilities



100+ suppliers committed to **100%** renewable electricity



Energy use reduced by **13.9M kWh** through efficiency efforts



Restore Fund will invest up to **\$200M** in natural climate solutions

Our approach

Climate change is one of the greatest threats of our time, putting at risk people's access to clean air, adequate food, safe drinking water, and sanitation.

This means the impact of the changes we make—improving energy efficiency and transitioning to renewable energy across our supply chain—extends beyond our factories, stores, and offices to benefit those who live in the communities where we operate. The future success of our company depends on taking urgent and decisive action. For years, we have increased energy efficiency and the use of renewable energy, yet we know we have to do more. That's why last year, we unveiled our most ambitious plan to date: to achieve carbon neutrality for the entire life cycle of our products by 2030. This goal places us 20 years ahead of the recommendations put forward by the Intergovernmental Panel on Climate Change (the United Nations body for assessing the science related to climate change) calling for carbon neutrality as a planet by 2050. The science is clear: Our world cannot wait for an inclusive, carbon neutral economy. Every business has a responsibility to create a meaningful plan to reduce its emissions.

Our goal and approach are informed by science. We focus on avoiding activities that generate carbon in the first place. And, wherever possible, we're switching to lower-carbon alternatives. In cases where emissions can't be avoided, we'll then remove the equivalent amount of carbon from the atmosphere. While we pursue viable solutions, we also align to the same carbon mitigation hierarchy in our strategy. It isn't the easiest approach, but it's the one science shows is necessary to address climate change.

Our philosophy for achieving carbon neutrality follows these principles:

- **Taking a comprehensive approach:** Our responsibility extends beyond our direct operations to the entire life cycle of our products. We calculate emissions from the production of raw materials, product manufacturing, shipping, the energy used to power our facilities and our customers' devices, as well as material recycling and recovery. Our commitment to reach neutrality for our full product life cycle shapes the actions we pursue. We can effect direct change through product design and using low-carbon inputs. Through supplier engagement, we can work with our manufacturing partners to transition to 100 percent renewable energy. And through the power of policy and industry collaboration, we can unlock climate solutions on a global scale.
- **Set ambitious targets:** Our plan to reach neutrality by 2030 centers around our strategy to reduce emissions by 75 percent, relative to our 2015 footprint. This reduction aligns with what current climate science shows is necessary to limit warming to 1.5° Celsius. We'll invest in high-quality carbon removal projects to address the emissions that remain, prioritizing the protection of ecosystems as a powerful, natural carbon solution. These projects will also align to rigorous international standards to ensure their impact. And by avoiding emissions first, we'll also reduce the carbon we need to remove.
- **Match solutions to sources:** For each activity within our value chain, we will choose decarbonization actions that tie to the source of those emissions. We'll address emissions from electricity with renewable energy and emissions from transportation with alternative fuels. By matching solutions to carbon sources, we will do our part to decarbonize the economy.



Our Green Bond engages investors in our work toward carbon neutrality. In our 2020 Green Bond report, we disclose progress on the projects funded over the last year that bring us closer to our 2030 goal.

[Read our 2020 Green Bond report \(PDF\).](#)

- **Align business operations with environmental progress:**

We believe what is good for the environment is also good business practice. We've demonstrated that meeting our environmental goals doesn't have to come at the expense of our bottom line. Our use of low-carbon aluminum reduces our environmental footprint while maintaining our design standards. We've also established investment funds for clean energy and nature-based solutions, designed to deliver both environmental benefits and financial returns. And we are leveraging the funds from Apple's €2 billion (approximately US\$2.2 billion) bond issuance in 2019 to help meet our climate goal, while providing a return to investors.

- **Explore all solutions:** Climate change is a complex problem that demands that global actors use multiple tools to address it. That's why our ambitious roadmap includes a portfolio of solutions across a 10-year time frame. We have to scale proven solutions now, while also exploring the solutions of the future. This includes the development of new technologies, like our support for direct carbon-free aluminum smelting.

- **Be open:** We are committed to disclosing our climate strategy and progress, as well as climate risk-related financial information. By sharing our approach, we aim to send clear signals to our partners and invite them to work with us. We also hope to empower our peers in their pursuit of carbon neutrality and engage investors in our pursuit of carbon neutrality through green bonds. Our reports, as well as our response to the global disclosure nonprofit CDP, will provide details on our progress.

Our 10-year climate roadmap will address Apple's carbon footprint through five pillars:



Low-carbon design

We will design products and manufacturing processes to be less carbon-intensive through thoughtful material selection, increased material efficiency, and greater product energy efficiency.



Energy efficiency

We will increase energy efficiency at our own facilities and in our supply chain by finding opportunities, such as retrofitting, to reduce energy use.



Renewable electricity

We will maintain our use of 100 percent renewable electricity for our own facilities and transition our entire supply chain to 100 percent clean, renewable sources of electricity.



Direct emissions abatement

We will avoid direct greenhouse gas emissions in our own facilities and in our supply chain through process innovation, emissions abatement, and the use of non-fossil-based low-carbon fuels.



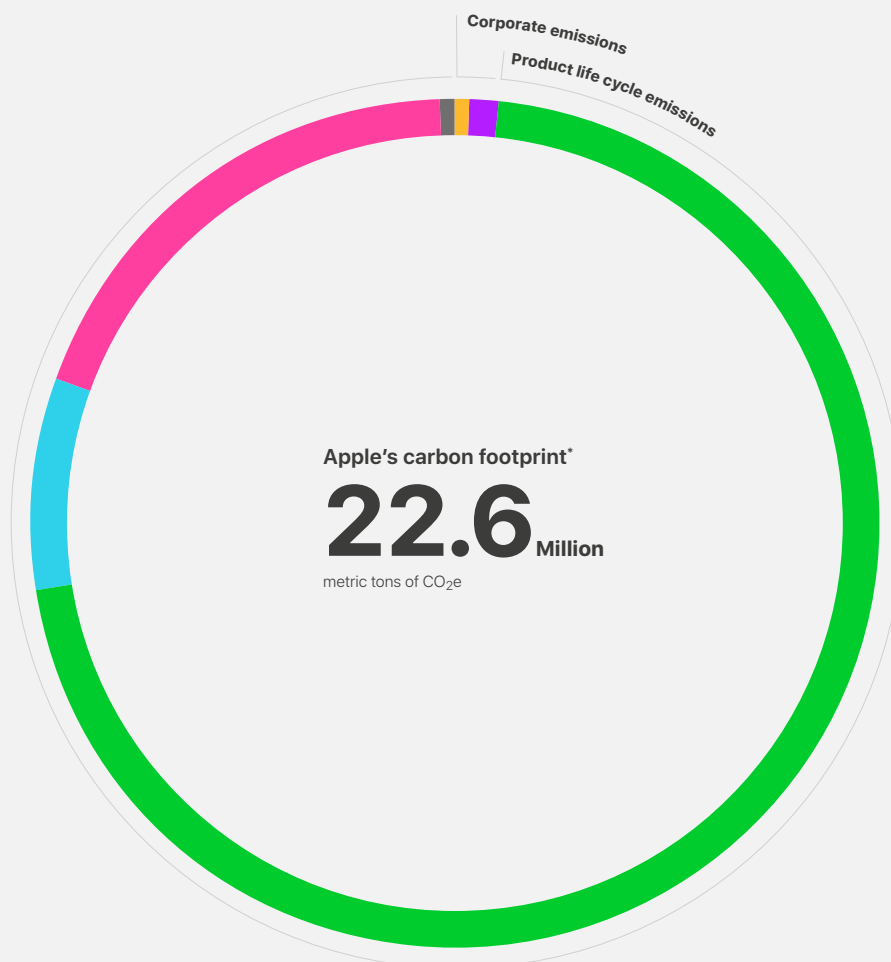
Carbon removal

Working in parallel with our emissions reduction efforts, we will scale up investments in carbon removal projects, including nature-based solutions that protect and restore ecosystems around the world.

Apple's comprehensive carbon footprint

To achieve our goal of carbon neutrality by 2030, we must first understand our carbon footprint today. So we meticulously model emissions from our entire value chain, including both our corporate operations and our full product life cycle. That includes emissions from manufacturing, transporting, using, and even recycling our devices. This data defines our strategy to reduce emissions by 75 percent and reach neutrality across our product life cycle.

Apple's 2020 carbon footprint



Scope 1

Direct emissions	<1%
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Scope 2

Emissions from electricity	0%
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Scope 3

Business travel and employee commute	1%
Product manufacturing	71%
Product transport	8%
Product use	19%
Material recovery	<1%

Emissions offset

<-1%

The WRI Greenhouse Gas Protocol defines the methodology for classifying GHG emissions.

Scope 1 emissions are those greenhouse gases resulting from fuel combustion from sources we own or operate—like vehicles or natural gas for heating.

Scope 2 emissions refer to those resulting from the use of electricity. Renewable energy generates minimal Scope 2 emissions, whereas burning coal, oil, or natural gas to produce electricity releases carbon dioxide and other greenhouse gases into the atmosphere.

Scope 3 emissions refer to all other indirect emissions that occur in a company's value chain, including upstream and downstream activities.

*This total represents our gross emissions in fiscal year 2020, and does not account for emissions offset.

Our carbon roadmap

Since our 2015 baseline year, we've seen consistent reductions in our carbon footprint, even as net revenue increased.

Our footprint has decreased by 40 percent, marking steady progress toward our 2030 target. And we avoided more than 15 million metric tons of emissions through initiatives to use low-carbon materials, drive energy efficiency, and switch to clean energy—carbon reduction efforts that separated a rise in sales from increases in our carbon footprint. Our historical emissions challenge the idea that good business requires growth in carbon emissions, and we aim to show this even more clearly going forward.

Measuring our footprint

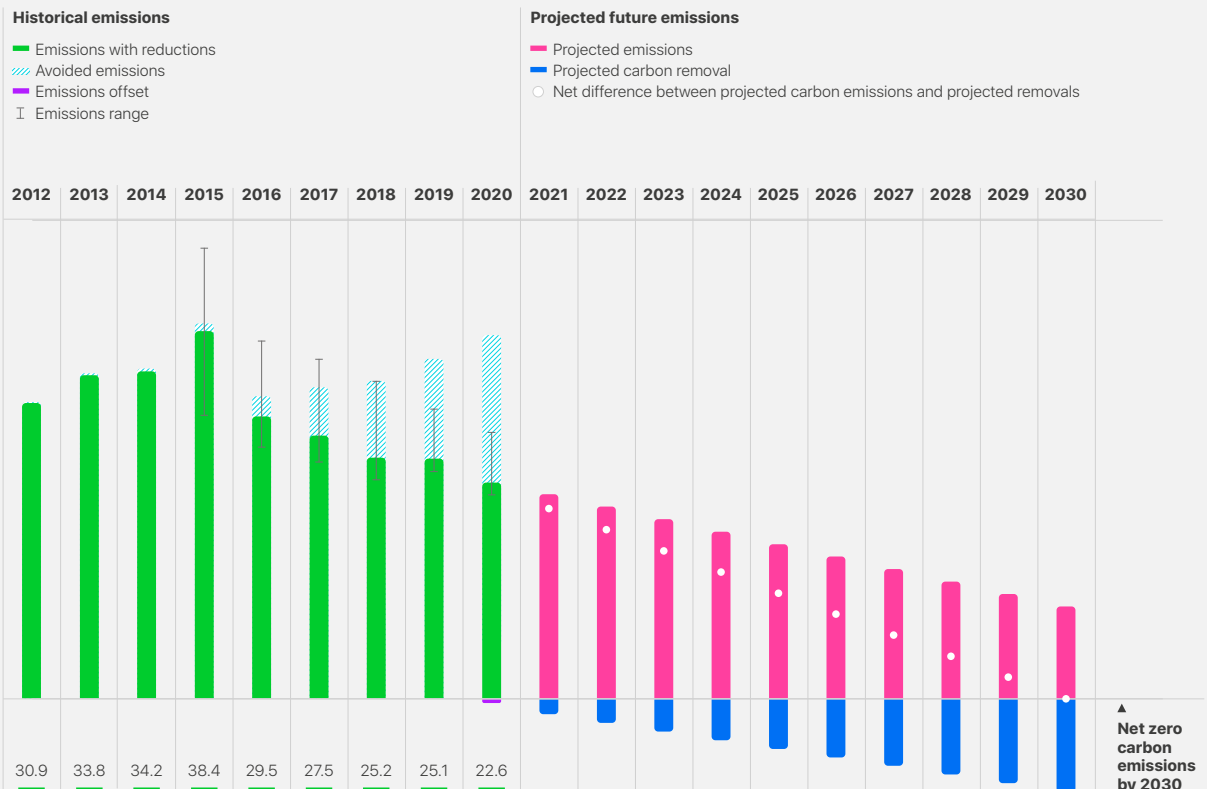
We calculate our comprehensive carbon footprint using a life cycle-based approach. Apple-specific data drives many of our most critical calculations; in cases where that data isn't available we rely on secondary sources, including industry averages. We continually refine our model to include new sources of product life cycle data—and offer a more accurate and transparent assessment of our footprint. Our comprehensive carbon footprint and our methodology are verified by a third party each year to ensure accuracy and transparency (see Appendix C). Improving the accuracy of our carbon footprint is an ongoing process we work on continually—as we learn more, we will revise our roadmap to incorporate new information. And, as our data improves, we will continually refine our emissions from previous years and our projections.

Historical carbon footprint

(million metric tons CO₂e per fiscal year)

Our plan to become carbon neutral by 2030 centers around a 75 percent emissions reduction relative to our 2015 footprint. We plan to address residual emissions through carbon removals. Already we've reduced our carbon footprint by 40 percent since 2015.

Note: We include a range for recently estimated emissions to reflect the potential variances inherent to modeling product-related carbon emissions. Each year, we refine our methodology to ensure the accuracy of our estimates. Projected emissions are displayed with a straight-line trajectory toward a reduction of 75 percent by 2030. Projected carbon removal is displayed with a similar straight-line growth to reach net zero carbon emissions by 2030.



Looking forward to 2030

We're focused on the road ahead, demonstrated by our pursuit of carbon neutrality by 2030. This goal sets us ahead of the Intergovernmental Panel on Climate Change (IPCC) recommendations by 20 years—because we believe our planet and our most vulnerable communities can't wait. We aim to reach neutrality by reducing emissions by 75 percent relative to our 2015 baseline, while addressing residual emissions through carbon removals.¹

Corporate scopes 1 and 2 emissions

Our journey to address our corporate emissions signals our plan to reach carbon neutrality for our full supply chain. Since 2011, our scopes 1 and 2 emissions have declined by 73 percent, and we had zero scope 2 electricity-related emissions for the second year in a row. Even as our business grew, our work to drive energy efficiency and transition to renewable energy reduced our footprint—avoiding over 4.6 million metric tons of emissions, the equivalent of taking almost 1 million cars off the road for a year.² We've addressed our remaining scope 1 emissions through nature-based solutions, achieving carbon neutrality for our corporate footprint.

Conducting a climate scenario analysis for our business

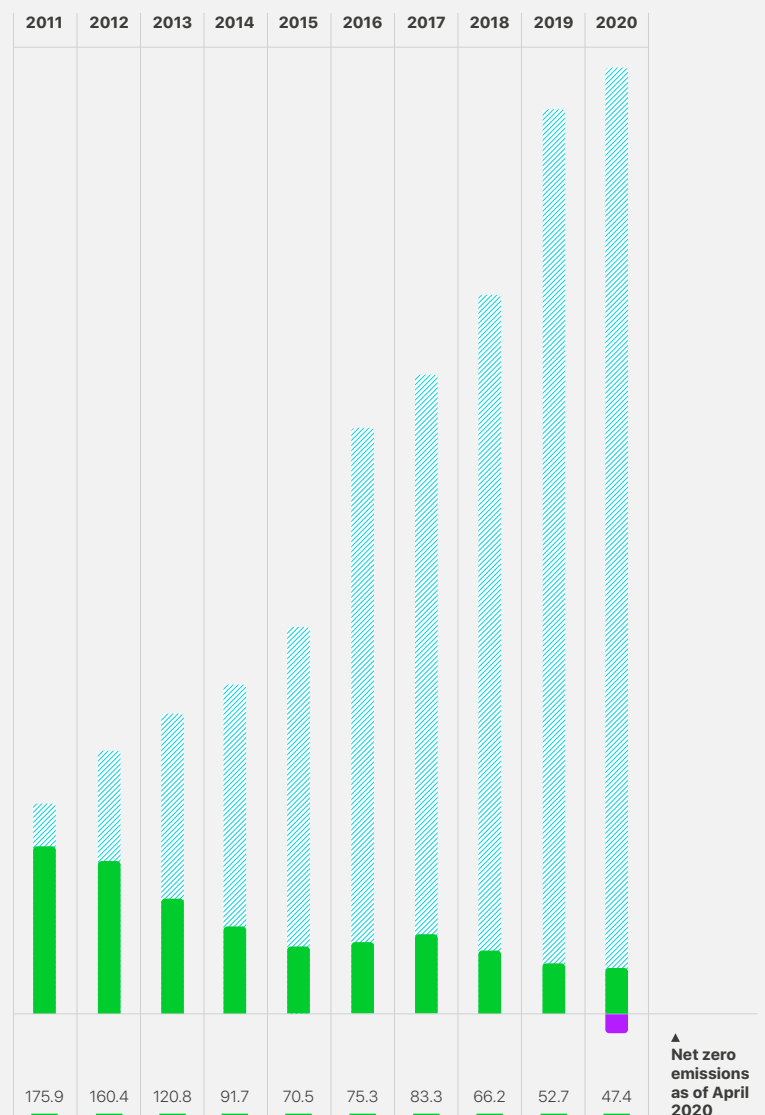
We're looking to the future by conducting a climate scenario analysis that helps us better understand the potential physical and transition effects of climate change.

To align with the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations, we considered a range of future scenarios, including a scenario below 2° Celsius. And we assessed geographies around the world to capture both corporate and supplier activities. The analysis highlighted how our renewable energy program and carbon neutrality goals could contribute to our corporate resiliency. It also provided environmental data that we'll consider in our strategies to maintain supply chain diversification, as well as promote the security of global assets.

Apple's emissions since 2011 (scope 1 and scope 2)

(thousand metric tons CO₂e)

- **Apple emissions³**
Emissions after accounting for Apple's renewable energy program
- ▨ **Emissions avoided**
Total emissions avoided due to Apple's use of renewable energy
- **Emissions offset**
Total scope 1 emissions offset



Low-carbon design

We believe that well-designed products have a lower environmental footprint. This is a principle we strive to bring to everything we create, and a central pillar of our 2030 goal to achieve carbon neutrality for our entire product life cycle.

Each year, we aim to reduce the carbon emissions that result from manufacturing and the use of our devices, without compromising performance.

Our carbon footprint helps us identify opportunities to reduce the carbon intensity of our product designs. We work to transition to materials from recycled sources or those made using low-carbon energy. We prioritize the materials and components that account for significant portions of our carbon emissions, so that the choices we make product-by-product can scale toward reducing our overall footprint.

Using material efficiently

Less means more when it comes to our approach with materials. As we reduce the amount of materials used to make our products, we see greater progress toward our goal of carbon neutrality. This helps us reduce the transportation and energy-intensive processing these materials require as well as limit the amount of scrap generated along the way. We continue to investigate new ways to manufacture more efficiently, limiting the amount of waste created in the process.

In 2020, we've made clear gains with our work on integrated circuits and boards and flexes—components we've prioritized because they are carbon-intensive. Integrated circuits perform vital functions in electronic devices, yet require significant energy to manufacture. With the Apple M1 chip, we've created a more efficiently designed chip tailored to the needs of Mac devices. This efficiency gain also brings with it environmental benefits. For example, switching to the Apple M1 chip for Mac mini reduced the energy needed to use the device and drove down the product's overall carbon footprint by 34 percent.⁴

We're also driving efficiencies in the design of boards and flexes, which account for significant carbon emissions. We've launched a strategic initiative to optimize our designs to find alternatives to these components and reduce their contributions to our footprint. For example, with iPad (8th generation) we switched from using flexes to lower-carbon alternatives in certain applications—one of many changes that helped reduce the total carbon footprint of the product by 7 percent compared to the previous generation.

We're also focusing on the accessories we ship with each product. In 2020, iPhone 12 and Apple Watch Series 6 devices shipped without power adapters in the box. The change allowed for smaller, lighter packaging. It also allowed us to fit up to 70 percent more products on a shipping pallet—which, in turn, helps reduce emissions associated with shipping. This change also eliminated the need for significant quantities of plastic and zinc since power adapters comprise our largest usage of these materials.

Leveraging low-carbon alternatives

Another design consideration is our choice of materials. By transitioning to materials that lend themselves more readily to low-carbon processing and recycling, we can reduce our carbon footprint. As these materials account for more significant proportions of the materials we use, we move closer to our goal of carbon neutrality for our products.

We've seen clear progress with aluminum—a material where we've had success in shifting to recycled materials and those generated from low-carbon processes. Several of our products use 100 percent recycled aluminum in their enclosures—including our latest MacBook Air, Mac mini, and the latest iPad devices. And all enclosures made with virgin aluminum for products released in 2020 were smelted using hydroelectricity rather than fossil fuels—for a lower carbon impact. As a result of these changes, our carbon emissions associated with aluminum have decreased by 72 percent since 2015.

We're also making progress in how we source recycled aluminum. The material we derive from our manufacturing scrap provides high-quality aluminum with fewer associated carbon emissions than newly mined materials. And, for the first time, we're expanding our sourcing to include post-consumer recycled aluminum from building and construction scrap that meets the high standards our products require.



34%

Switching to the Apple M1 chip for Mac mini reduced the energy needed to use the device and drove down the product's carbon footprint by 34 percent.



72%

By switching to recycled and hydro-smelted aluminum, our carbon emissions associated with aluminum have decreased by 72 percent since 2015.

Driving product energy efficiency

Designing energy-efficient products even as we continually enhance performance represents another essential pillar of our approach to carbon neutrality. Product energy use accounts for 19 percent of our carbon footprint—and has an impact on the individual energy use of each of our customers. This is why we've set aggressive targets to reduce our products' energy usage. We approach this challenge in the earliest phases of design, taking a holistic view of each product from how efficiently software operates to the power requirements of individual components.

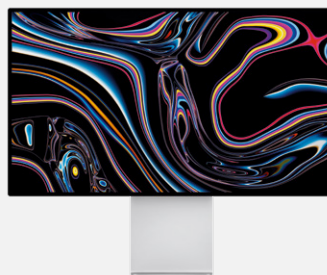
While this is a continual effort with each new generation of products, we've already made progress. The transition to Apple silicon on Mac devices, for example, is driving efficiency improvements—the Mac mini consumes up to 60 percent less energy while in active use than the previous generation.⁵ Through our efforts to improve energy efficiency, the average product energy use across all major product lines has declined by more than 70 percent since 2008.⁶ And Apple products are consistently ranked by ENERGY STAR, which sets specifications that typically reflect the 25 percent most energy-efficient devices on the market. The group recognized Pro Display XDR on the ENERGY STAR Most Efficient List for 2020 and 2021. In fiscal year 2020, 100 percent of our eligible products received an ENERGY STAR rating for superior energy efficiency.⁷ And 100 percent of our eligible products earned the highest award from EPEAT, another environmental rating system for electronic products that considers energy efficiency a highlighted feature.⁸

Product energy efficiency



66%

iPad (8th generation) consumes **66 percent less energy** than the requirement for ENERGY STAR, thanks in part to a more energy-efficient power adapter.⁹



Most Efficient

Pro Display XDR made the ENERGY STAR **Most Efficient List** for 2020 and 2021.¹⁰



53%

iPhone 12 consumes **53 percent less energy** than the U.S. Department of Energy requirements for battery charger systems.¹¹

Energy efficiency

Our energy efficiency goals extend well beyond our products. We're focused on using less energy across our operations, beginning with how we design, operate, and maintain our facilities. And we continue these same efforts into our supply chain, which benefits those living in areas where our suppliers operate.

Drawing less energy from electrical grids—many of which still rely heavily on fossil fuels—helps reduce local air pollution and improve air quality for nearby communities.

Reducing energy use is an essential business process. We track and monitor energy use across our operations and supply chain, conducting audits to find opportunities to work more efficiently. And we view our energy use holistically, from the point of design to the point of manufacture.

Operating Apple facilities efficiently

Finding ways to avoid using energy in the first place is the central focus of our energy efficiency program. We work with design teams to tailor our building systems selection process to our occupants' and lab users' specific needs. This helps ensure our facilities are utilized efficiently and productively. We focus on natural gas and electricity usage at each site—our offices, data centers, R&D facilities, and retail stores—auditing how we perform and, when needed, using best practices for energy management to reduce our loads.

Measurement is critical to this. We continue to develop our system of energy tracking and benchmarking. This helps us identify performance issues at our sites early. We can then take corrective action to restore building system efficiencies and actively manage our energy footprint.

We're also working to find energy savings through different approaches—from renovating and retrofitting more than 100 older locations to collaborating with our local utilities to ensure that we deploy the best available energy efficiency strategies. As we renovate sites, we review all aspects of the building for efficiency opportunities—from lighting and electrical systems to heating and cooling systems. For example, in Santa Clara Valley, we worked directly with PG&E and Silicon Valley Power to optimize how we run select facilities, so that we draw less energy from the grid.

Energy efficiency principles are incorporated early in the design of new facilities. We look at each location's conditions, designing and building to local temperature, humidity, and light. As each site becomes operational, we monitor how well we're performing and make needed adjustments. And we opened new retail locations in 2020 based on our energy-efficient retail facilities prototype.

We can see the results of these efforts. Our data centers, for example, perform about 60 percent better than the ASHRAE 90.4 baseline specific to data centers.¹² And design optimizations at our Flagship Stores locations are expected to contribute up to about 40 percent energy savings, compared to the ASHRAE benchmark. In fiscal year 2020, our energy efficiency program helped us reduce our usage by an additional 13.9 million kilowatt-hours and 199,700 therms per year through adjustments made to 7.1 million square feet of new and existing buildings.¹³ Together, these new initiatives reduce total energy use by five percent in targeted buildings and will avoid about 4,900 metric tons of CO₂e per year.

Working with our suppliers toward a more energy-efficient supply chain

The most significant opportunity to make an impact on energy efficiency is with our suppliers. Currently, manufacturing accounts for approximately 70 percent of Apple's comprehensive carbon footprint. Energy usage drives those emissions, so with our suppliers, we prioritize optimizing energy use and then shifting to renewable energy sources.

Our Supplier Energy Efficiency program works side-by-side with our Supplier Clean Energy program in supporting suppliers to reduce emissions. By helping a supplier reduce the energy they use, we lower the amount of renewable energy they will need to meet their clean energy commitments. While not all suppliers have the same level of access to renewables, each has the opportunity to work more efficiently with the energy they're using. We began addressing energy efficiency with the suppliers who expressed interest in optimizing their energy use and with manufacturers with significant energy usage.

Now we're focusing on scaling the program content and services to the broader supply chain, as part of our strategic effort to reduce the energy required to make our products. From the collaborative actions we've taken with our suppliers to accelerate toward carbon neutrality, more than 900,000 annualized metric tons of supply chain carbon emissions were avoided, a 44 percent improvement over 2019.¹⁴



13.9M

We reduced our energy use by 13.9 million kilowatt-hours through efficiency efforts implemented in fiscal year 2020.



900K

Suppliers in our Supplier Energy Efficiency program avoided more than 900,000 annualized metric tons of supply chain carbon emissions.

As suppliers join our energy efficiency program, we encourage them to deeply understand their greenhouse gas emissions. As of 2019, we required our suppliers to report both their emissions and their reduction targets.¹⁵

To help suppliers reduce their energy use, we provide guidance designed to help them uncover opportunities for energy efficiency. We also assist them with assessments and technical issues where appropriate. Typical projects may include replacing outdated or inefficient heating, cooling, and lighting systems; repairing compressed air leaks; and recovering waste heat. We've also provided support through workshops and trainings, including multiday classroom trainings for employees complete with a capstone project. We continue to expand the support we provide to suppliers as they build more energy-efficient systems, through new training materials and increased access to funding opportunities.

We're focused on the impact of some of our most popular products. One example is our three-year initiative to improve the efficiency of iPhone manufacturing. Collectively, the six participating supplier facilities achieved their goal of 20 percent reductions by the end of 2020 compared to the established 2017 baseline. In addition, final assembly sites for AirPods, iPad, and Apple Watch have all launched multiyear energy reduction initiatives in 2020.

The Impact Accelerator

"Systemic racism and climate change are not separate issues, and they will not abide separate solutions."

Lisa Jackson

Vice President, Environment, Policy and Social Initiatives

A program for Black- and Brown-owned businesses

To ensure that our work to protect the planet also helps advance equality, Apple has launched an Impact Accelerator for Black- and Brown-owned businesses.¹⁶ The Accelerator expands access to opportunity by ensuring that our investments in sectors like renewable energy, carbon removal, and recycling innovation also help fight systemic barriers impacting communities that are disproportionately affected by environmental issues like climate change. With customized training, access to Apple experts, and an expanding alumni community, our Impact Accelerator is tailored to support companies as they achieve their next stage of development.

The Impact Accelerator is just one of many efforts within Apple's \$100 million Racial Equity and Justice Initiative, which focuses on efforts that address education, economic equality, and criminal justice reform in the United States. With our partners in these efforts, we aim to redefine business as usual and drive progress toward a more equitable future.

To apply to our Impact Accelerator program, or to learn more about our Racial Equity and Justice Initiative, visit www.apple.com/racial-equity-justice-initiative.



Expanding access to energy efficiency

Last year, one of our manufacturers in Guangzhou, China, deployed a state-of-the-art energy management system. With the system in place, the manufacturer can monitor and optimize their complex network of air conditioners, fans, pumps, and air compressors at the facility.

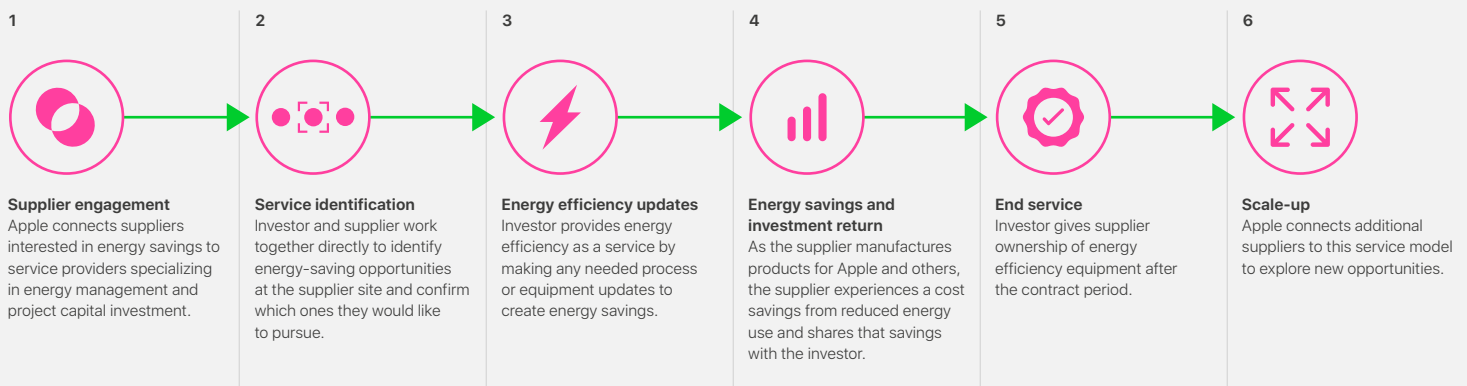
The new system allowed the facility managers to find efficiencies in energy usage across their site, even as the facility carried out highly engineered and specified manufacturing processes for Apple. The facility team also installed a waste heat recovery system that captured the heat generated by energy-intensive equipment—like air compressors—and converted it to warm water for use in living areas. These upgrades improved the energy efficiency at the manufacturer's site and helped to reduce the facility's carbon impact.

Energy efficiency upgrades like these require a combination of innovative technical solutions and organizational priorities that support these goals. But, there's another important element: capital investment. The project at the Guangzhou manufacturing site was made possible by capital from Asia Green Fund, as part of a US\$100 million investment initiative.

This initiative brings together Asia Green Fund's investors and energy management contractors to offer energy efficiency as a service to participating suppliers for the first time. This fund makes energy-saving opportunities accessible to suppliers—the upfront investment challenges and implementation risks will be taken by the investors. As our suppliers realize savings from energy costs, investors recoup their capital.

Apple doesn't directly invest capital or draw financial returns through this initiative, but connects suppliers to Asia Green Fund that offers both financing and energy efficiency expertise to support complex capital intensive projects. A key barrier to achieving energy efficiency at scale is access to capital funding. "Energy efficiency as a service" through the fund presents an alternative approach to solve this challenge. The fund draws on Apple's relationships and deep knowledge of our suppliers' facilities and engineering processes, resulting in supplier projects that improve energy efficiency and positive environmental impact. These benefits carry over to the other technology products our suppliers create as well, reducing both our footprint and those of our industry. To date, US\$7.5 million of investments have been made in supplier efficiency projects using this model, bringing us closer to our goal of carbon neutrality.

Steps in the Asia Green Fund energy efficiency process



Renewable electricity

We're at a pivotal moment in addressing climate change. Renewable energy is poised to replace fossil fuels as the future of electricity. Its adoption means healthier air, stronger local economies, and lower carbon emissions. All at cost-competitive rates.

Our commitment to transition to 100 percent renewable energy for our entire supply chain enables resiliency in the face of challenges like climate change, and moves us closer to becoming carbon neutral by 2030.

In 2018, we announced our own operations were fully transitioned to 100 percent renewable electricity. And we continue to expand on our commitment to green technologies by bringing new renewable electricity projects online around the world. In the long term, these projects provide more cost-effective energy with less price volatility. Renewable electricity can offer a clear competitive advantage by providing power to our operations, as well as those of our suppliers, with greater control over energy supply and little exposure to cost fluctuations. And by adopting green technologies, we and our suppliers are in a unique position to drive environmental action and support our goal of carbon neutrality by 2030.

Our approach is twofold. We find ways to consume energy more efficiently, and we seek out opportunities to transition to renewable sources that support our goal of 100 percent renewable energy across our operations and supply chain.

With the renewable energy we source, we aim to achieve the greatest impact possible. Before we engage in an energy project, we evaluate it with a holistic view of its potential environmental and social impact. Whenever possible, we create new renewable energy, going above and beyond what might be available on the local grid. We also follow stringent accountability standards to verify our clean energy projects.

Renewable electricity at Apple facilities

Our retail stores, data centers, and offices around the world currently source 100 percent renewable energy. We are proud of this accomplishment—and as we grow, we're working diligently to maintain this benchmark. Where possible, we focus on creating new renewables. New renewables require investment—whether in the form of direct ownership of renewable energy projects, equity investments, or long-term power purchase agreements. Our projects in 2020 included more than 180 megawatts of solar power near Fredericksburg, Virginia, and outside of Reno, Nevada, as well as 130 megawatts of wind power near Chicago, and in Viborg, Denmark. In total, Apple-created renewable sources account for 90 percent of the renewable electricity our facilities use—around 1.5 gigawatts currently in use and another 30 megawatts under contract.

Our "Apple-created" projects for facilities include:

Direct ownership

(10 percent of Apple-created projects)

We build our own projects, including solar, biogas fuel cells, and low-impact hydro projects, where feasible, to provide renewable electricity.

Equity investment

(3 percent of Apple-created projects)

We invest capital in new solar PV or wind projects in some markets, matching the renewable generation with our energy use.

Long-term renewable energy contracts

(87 percent of Apple-created projects)

We sign long-term contracts for renewable electricity when needed. Through power purchase agreements, virtual power purchase agreements, and other forms of long-term commitments, we help support new, local, and primarily solar PV and wind projects that are in line with our renewable energy-sourcing standards.



10%

of Apple-created projects are directly owned.



3%

of Apple-created projects are equity investments.



87%

of Apple-created projects are long-term renewable energy contracts.

To cover any gaps in our renewable energy needs beyond what's provided by Apple-created projects, we directly purchase renewable energy—about 5 percent of our total corporate load—through available utility green energy programs. Colocation facility vendors also supply about 3 percent of our total load of renewable energy. And in certain situations, we go to the market for renewable energy credits (RECs)—for example, when we need to bridge before a renewable project comes online or when there's a lack of availability. These RECs, which account for about 1 percent of our total load, must be tied to recently constructed projects, Green-e Energy certified, where available, and share the same power grid as the Apple facility they support. These purchases are subject to the same standards as our Apple-created renewables. [Appendix C](#) provides additional details on Apple's renewable energy solutions.

Creating additional impact

Achieving 100 percent renewable energy at Apple facilities provided us a starting point to make an even greater impact. We've focused our efforts to source renewables around several key pillars: undertaking projects that deliver clear benefits to local communities, working on storage solutions that facilitate the use of renewable electricity, and supporting renewable energy innovations.

Supporting social impact

Power for Impact, the program we launched in 2019, continues to provide local communities with needed energy resources. Following our initial projects—solar developments in communities in the Philippines and Thailand facing energy cost and availability challenges—we supported solar power in Diepsloot, a densely populated township in Johannesburg, South Africa, home to an estimated 180,000 families. A portion of these families lack many essential services including potable water, waste management, and electricity. This system combines 152 kilowatts of PV and 830 kilowatt hours of storage across 230 solar towers and will provide electricity to more than 3600 households.

Developing energy storage

Wind and solar power provide the most cost-effective new source of electricity to many parts of the world. Yet, the intermittent nature of these technologies has presented an obstacle to widespread adoption—and resulted in continued reliance on fossil fuel-powered grids. One solution to intermittency is energy storage, which can retain generated power until it is needed. We've invested in utility scale storage in California and in research into new energy storage technologies, even as we continue to build upon our distributed storage capabilities in Santa Clara Valley and optimize storage at our Apple Park microgrid.

Apple is sponsoring the construction of one of the largest battery projects in the country—an industry-leading grid-scale energy storage project in California capable of storing 240 megawatt-hours of electricity. This project supports our 130-megawatt California Flats solar farm that provides all of our renewable energy in California, by storing excess energy generated during the day and deploying it when it is most valuable.

We're also continuing to support biological methanation research at Aarhus University, Denmark, which explores the production of synthetic methane for storage in the existing gas grid. In this process, bacteria consumes both hydrogen produced from excess renewable energy and captured carbon dioxide to produce methane, the principal component of natural gas. Methane produced from renewables is a versatile energy carrier that can be used as a fuel source in households, industry, and transportation.



240

megawatt-hours

Amount of electricity capable of being stored at the Apple-sponsored California Flats energy storage project.

Advancing renewable energy through innovations

In 2020, we've pursued innovations in how we create and consume renewable energy. We announced our investment in the world's largest onshore wind turbines. The Denmark-based project, near the town Esbjerg, features two 200-meter-tall turbines that are expected to produce 62 gigawatt-hours each year—enough to power almost 20,000 homes. The power produced onsite will support Apple's data center in Viborg, with all surplus energy going into the Danish grid. The project will also act as a test site for powerful offshore wind turbines. Our agreement to purchase the electricity at an established price has helped make this effort financially viable as it comes online.

Some innovations are market-based. Outside of Fredricksburg, Virginia, we've helped to realize a renewable energy aggregation project, which brings together multiple buyers in a single energy transaction. For this 165-megawatt project, we worked with our partners Akamai, Swiss Re, and Etsy to help attain economies of scale through our collective purchasing power.

Below: In total, Apple-created renewable sources account for 90 percent of the renewable electricity our facilities use, and include wind projects in Viborg, Denmark, and Prineville, Oregon (pictured below).



Renewable electricity at our suppliers

Electricity usage in our supply chain is the single greatest contributor to our carbon emissions. While this is a global issue, the impact is also local. Bringing renewable energy online with our suppliers and, where possible, displacing fossil fuels helps decarbonize power grids and improves local air quality for communities. That's why our efforts to enable our suppliers to reduce energy use and transition to renewables are essential to reaching our 2030 goal of carbon neutrality. This work presents challenges: technical and regulatory barriers, capital requirements, and lack of awareness on where to find and access high-quality and cost-effective solutions.

Two initiatives drive our approach: our Supplier Energy Efficiency Program and our Supplier Clean Energy Program. These work hand in hand to reduce the energy used in our supply chain and transition the remaining energy to renewables. We take responsibility for our supply chain as part of our comprehensive carbon footprint. But we also know that we can achieve even more significant climate impact by providing a model for other companies to follow with their suppliers, helping to reduce emissions beyond our industry.

We've made tremendous progress toward our goal of transitioning our manufacturing supply chain to 100 percent renewable electricity by 2030. One important benchmark we've achieved is our initial goal, set in 2015, of bringing online over 4 gigawatts of additional renewable energy to our supply chain—with additional supplier commitments bringing the total to nearly 8 gigawatts. The renewable energy already online generated 11.4 million megawatt-hours of clean energy in fiscal year 2020, avoiding 8.6 million metric tons of carbon emissions in our supply chain. As of March 2021, 109 manufacturing partners in 24 different countries have committed to 100 percent renewable energy for Apple production (see Appendix B). And to cover emissions even further upstream, Apple has invested directly in nearly 500 megawatts of renewable energy projects.

Moving clean energy forward in our supply chain

While we celebrate our transition to 100 percent renewable energy at our facilities,¹⁷ we want to see a world in which renewable energy is widely available and broadly used. Starting with our suppliers, we aim to accelerate this change as we support their transition to renewables. Our own experience gives us knowledge we can share. And we help break down barriers, through innovative funding structures and by advocating for clean energy-friendly policies. In 2020, we received the RE100 award for "best green catalyst" due to our work engaging our suppliers on renewable energy.

Supplier energy efficiency and clean energy achievements



Galvanizing internal champions

Apple employees are passionate about the environment and excited about our 2030 commitment. We're empowering supplier-facing employees with the tools they need to support our mission and speed a supplier's transition to renewable energy. It starts with data and transparency. We track the progress of our suppliers, including those just beginning to learn about renewables and others that are well on their way to 100 percent renewable. We've also created internal trainings and crafted a simple engagement process, backed by resources for both Apple employees and our suppliers. By connecting our suppliers with resources and helping them assess their performance, our teams are scaling impact across our supply chain.

Supporting supplier capacity

We share the experience gained through our own transition to 100 percent renewable energy with our suppliers. We introduce suppliers to resources and training materials with country-specific information to guide them in their transition to renewables. These tools are available through our Supplier Clean Energy Portal. We also educate suppliers through advanced and customized training with leading experts. And we support the creation and growth of renewable energy industry associations that our suppliers can join to learn about local opportunities.

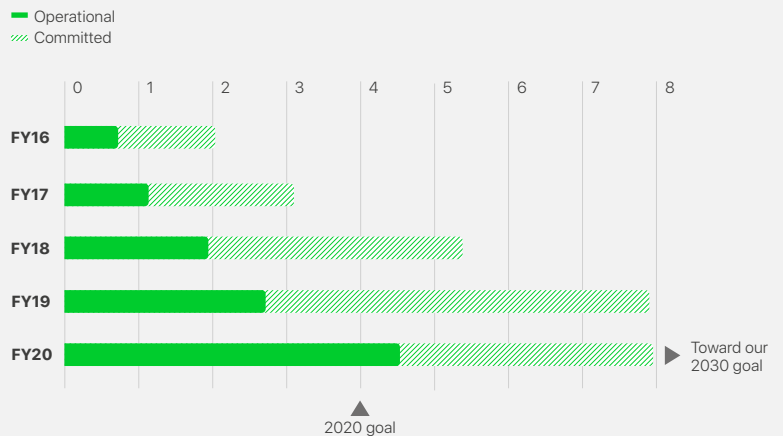
Long-standing energy structures can make it difficult to bring new renewable energy online in some regions, prompting some of our suppliers to maximize existing renewable energy solutions—like onsite solar installations. Others have pioneered new purchasing methods, creating renewable energy businesses or even participating in some of the world's largest and most innovative renewable energy deals.

Advocating for policy change

Government policies and rules can present some of the largest barriers to transitioning to renewables. We lend our voice and stand with other companies and NGOs to break down policy barriers to achieve thriving clean energy markets with, for example, enhanced grid resiliency and greater energy innovation. Across regions, we engage with policymakers to support renewable energy that is cost-effective, accessible to companies, and sourced from high-quality projects with a material impact on local markets. For more information, jump to the section on our [climate policy engagements](#).

Supply chain clean energy progress

Renewable energy operational and committed in gigawatts (GW)



Expanding renewable energy opportunities

The transition to renewables means helping our suppliers find energy solutions and make the right investments to address their specific needs. When we face barriers to accessing cost-effective clean energy, we innovate. That's why we developed the China Clean Energy Fund. The fund enables Apple and our suppliers to invest in clean energy—to date, these projects account for 134 megawatts in renewable power. We've also invested in renewable energy solutions to cover upstream emissions in our supply chain—playing a pivotal role in developing nearly 500 megawatts of solar and wind projects in China and Japan.

Promoting and protecting sound climate policies

In April 2019, the U.S. Environmental Protection Agency (EPA) adopted the Affordable Clean Energy (ACE) Rule, which effectively repealed and replaced the Clean Power Plan (CPP).

Apple had previously voiced our support for the CPP because it played an important role in allowing developers, utilities, and financiers to invest in renewable energy with confidence, and it incentivized utilities to provide corporate energy buyers like Apple with increasing supplies of renewable energy. The adoption of the ACE Rule eliminated those incentives. Apple spoke out on this issue, as we believed that the ACE Rule would reduce access to renewable energy sources and drive up the cost of renewable energy.

In January 2021, the U.S. Court of Appeals for the D.C. Circuit held that the ACE Rule and its repeal of the Clean Power Plan was inconsistent with the U.S. Clean Air Act. We anticipate new challenges ahead, but our position on strong climate policy is clear: Each one of us has a role to play in addressing the climate crisis. We undertake our advocacy—whether in pushing for more robust policies or fighting to protect those already in place—because it makes business sense for Apple and it is what our customers, shareholders, and stakeholders expect of us. Our collective action on climate change is crucial for the planet and the long-term health of our business.

Apple sees three steps that governments can take to create effective climate policy:

- 1. Set strong targets based on science.** Policymakers should set national or regional targets that seek to limit warming to no more than 1.5° Celsius. These goals need to include interim targets and mechanisms to enforce short-term accountability. To meet these targets requires a price on carbon and parallel participation in international policy negotiation.
- 2. Create sector-specific policies.** Limiting warming to 1.5° Celsius is a goal that requires actions across the entire economy. Policies need to address sector-specific needs and facilitate the transition to decarbonize industries where there are challenges or there is a need for infrastructure to support the goal.



- 3. Support a green economy for all.** Climate policies should have positive, long-term fiscal impacts and support the development of the new green economy, with job opportunities focused on advancing clean innovation.

Above: Apple's CEO Tim Cook speaks regularly on the company's environmental commitments in public forums around the world.

We're pursuing clean energy policies in countries where we operate. In Europe, Apple called on European leaders to increase their climate ambition to achieve a target of at least 55 percent of greenhouse gas emissions by 2030 and to achieve climate neutrality by 2050. The EU—which adopted this standard in December of 2020—serves as an example for how policy ambition is crucial for climate progress and how companies like Apple can play a role in showing how economic and climate progress go hand in hand.

Last year in Seoul, we hosted members of RE100, a global initiative of some of the world's most influential businesses committed to 100 percent renewable electricity. In Vietnam, we advocated for government action to enable companies to purchase renewable energy. Also, in Japan, we became the first of several multinationals to join the Japan Climate Leader's Partnership, which aligns business objectives with environmental goals.

Our own goals show our commitment to these principles, as our 2030 emissions reduction target aligns with the actions needed to limit warming to 1.5° Celsius.

Direct emissions abatement

Some materials that are integral to our products result in significant emissions. The same is true for certain manufacturing processes. To address these emissions we seek technological solutions, either through emissions abatement or switching to low-carbon fuel options.

Rethinking aluminum manufacturing

Many Apple products utilize aluminum as a signature material—it is strong, durable, and enhances the longevity of devices. But, the current smelting process for producing aluminum used by manufacturers around the world is carbon-intensive. For the first time, aluminum smelted with a direct emissions-free process is being used in production of the 16-inch MacBook Pro.

This innovation, called Elysis, is the result of a joint venture of two aluminum manufacturers. The venture aims to commercialize patented technology that eliminates direct greenhouse gas emissions from the traditional smelting process. This aligned with our goals to reduce emissions associated with our products—and to pursue innovations that can carry industry-wide impact. Apple and the governments of Canada and Quebec have joined with the founders of Elysis to invest in research and development of the technology. Part of this funding is being used to construct a new facility in Quebec. Once finished, this R&D facility will significantly scale the carbon-free smelting technology, making this high-performance, low-emissions material available commercially.

Addressing fluorinated greenhouse gas emissions

Many components essential to products like ours, including integrated circuit (IC) chips and display panels, currently rely on manufacturing processes that use fluorinated gases. We're partnering closely with key manufacturers to prevent these gases from being released into the atmosphere, where they have high global warming potential. First, we encourage suppliers to optimize manufacturing processes—reducing the use of fluorinated greenhouse gases (F-GHG) in the first place. Then we ask suppliers to deploy abatement technologies, curtailing the release of emissions from the gases that remain. As of December 2020, our display suppliers have installed mitigation technologies to reduce F-GHG emissions associated with producing all of our display panels by more than 90 percent on average. Since the launch of our efforts in 2019, our key display suppliers have reduced the equivalent of more than 2,300,000 annualized metric tons of CO₂e.

Transporting products

Each year, we ship hundreds of millions of products from our manufacturers to our consumers. We've approached this process as we have other carbon emissions objectives. We're shifting toward less carbon-intensive shipping methods, like rail and maritime carriers, where possible. And we're seeking out technical innovations, including alternative fuels and electric vehicles.

HomePod recently launched using lower-carbon forms of transportation, significantly reducing emissions associated with shipping. In Europe, we're working with carriers who prioritize "carbon neutral delivery" using electric vehicles, including e-bikes and e-cars. These innovations help reduce our impact in the communities where our customers purchase our products. And by preferring vendors that offer low-carbon options, we signal the value of these options to us and reward those driving decarbonization in their industry.



90%+

As of December 2020, our display suppliers have installed mitigation technologies to reduce F-GHG emissions associated with producing all of our display panels by more than 90 percent on average.

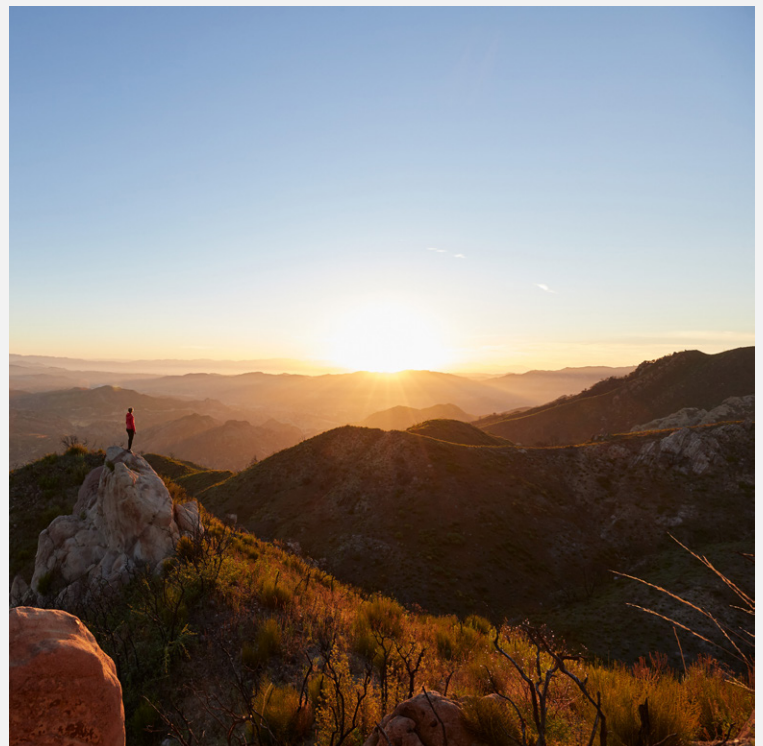
Improving employee travel and commute

We are also exploring ways to reduce our carbon footprint from employee commuting. Although the Covid-19 pandemic significantly impacted the number of our employees commuting to Apple facilities and retail stores—temporarily reducing our carbon footprint—our strategy to reduce commuting-related emissions looks beyond this to the long term. Our efforts incorporate remote working through our At Home Advisor program, while also transitioning away from single-occupancy vehicles through mass transit, coach services, and campus bicycles. We also offer more than 2300 EV charging stations across our U.S.-based campuses. In total, these initiatives have helped us reduce our CO₂e emissions by more than 16,000 metric tons in fiscal year 2020.

Supporting elephant conservation and national parks

Through donations, Apple works with a diverse set of partners to enhance environmental protections and support global communities. For the launch of the Apple TV+ documentary, *The Elephant Queen*, Apple partnered with Conservation International and Save the Elephants to support community-based elephant conservation in Kenya—including improved elephant tracking and the Reteti Elephant Sanctuary.

Apple also celebrated the 104th birthday of the national parks with a donation to the National Park Foundation. With support from Apple, the National Park Foundation's youth programs have given thousands of kids the chance to learn about and experience the parks through school activities, trips, and service corps programs. These programs include efforts to bring youth from underserved communities into the parks and recruit interns from historically black colleges and universities.



Carbon removal

Our goal to reach carbon neutrality by 2030 requires more than reducing emissions. To address the emissions we can't avoid for the foreseeable future, we need to take active steps to remove carbon dioxide from the atmosphere. This is a necessary complement to our emissions reduction efforts—and an essential pillar of our strategy.

The purpose of our carbon removal work is clear and urgent. All global actors need to take immediate action to combat climate change. That's why we've set our goal to reduce emissions by 75 percent by 2030. And why we use the best tools available today to remove the remainder of our emissions: nature-based solutions.

Investing in nature-based solutions

Nature provides some of the best tools to remove carbon from the atmosphere. Forests, wetlands, and grasslands draw carbon from the atmosphere and store it away in their soils, roots, and branches. This approach not only is proven and scalable, but also provides livelihoods for local communities and improves ecosystems. That's why we've begun with nature-based carbon removal solutions to support our goal of achieving carbon neutrality across our full product life cycle by 2030.

In developing our strategy, we recognize that forest restoration and habitat protection don't always have to be a cost, but can represent an investment opportunity. That is why we're partnering with Conservation International and Goldman Sachs to launch the Restore Fund. Apple will invest up to US\$200 million in projects that aim to permanently remove carbon from the atmosphere, all while meeting clear social and environmental impact criteria and offering a financial return.

How these investments will perform is of critical importance. Our partnership with Conservation International and Goldman Sachs helps ensure the impact of investments, by seeking out projects that meet the highest environmental and social standards. The Restore Fund will align with international standards developed by organizations such as Verra, [the Intergovernmental Panel on Climate Change](#), and [the UN Climate Convention](#), which ensure that the carbon stored in forests is being conservatively and accurately quantified, and is permanently locked out of

the atmosphere. We will also share our measurements through international registries to ensure transparency and accuracy—and that any emissions savings aren't counted twice. This will also involve close engagement with local and indigenous communities to respect and protect their rights and livelihoods. Our priorities will focus on projects that protect lands with high conservation values and that use native species to maintain and restore biodiversity in the areas that we restore. To ensure the integrity of these programs, we will work with independent auditors to verify our impact.

In its pilot phase, the Restore Fund has a goal of removing more than 1 million metric tons of carbon dioxide per year with impact scaling up over time. By 2030, we aim to remove enough carbon dioxide from the atmosphere to cover the residual emissions that we are unable to avoid directly within our value chain. This fund is unique because it changes carbon removal from a cost to a profitable investment. Through creating a fund that generates both a financial return as well as real and measurable carbon impact, we aim to drive broader change in the future—encouraging capital investment in carbon removal around the globe.

Achieving carbon neutrality for corporate emissions

Long-term carbon removal solutions, like the fund, will help us reach neutrality for our end-to-end carbon footprint. At the same time, we are not waiting to address our corporate emissions in the short term. As of April 2020, Apple has been carbon neutral across all of our corporate emissions—including stores, data centers, and corporate facilities—as well as business travel and employee commuting. We've already addressed the vast majority of our corporate emissions through renewable energy and energy efficiency efforts. However, the carbon footprint of some activities is difficult to avoid today—whether it is emissions from the use of natural gas in some of our buildings or the emissions from employee air travel. To address these emissions as the Restore Fund comes online, we partnered with Conservation International on projects that generate carbon credits to cover our corporate footprint.



\$200M

Amount Apple will invest through the Restore Fund to remove carbon from the atmosphere.

Nature-based climate solutions

In Kilifi, Kenya, just south of the Arabuko Sokoke National Reserve, a forestry business is seeking to change the way commercial forestry operates in this region of Africa.

Komaza is a “micro-forestry” company that partners with and empowers tens of thousands of marginalized farmers to earn a living from sustainable tree farming. The company works with farmers from planting, to harvesting, to processing—supporting an eight-year growth cycle to create responsible wood products.

There is an urgent need for the work that Komaza is doing. Across Africa, the demand for wood has grown with rising populations in tandem with rapid urbanization—at a rate that far exceeds what the continent’s forests can provide. This has led to increased deforestation and the cascading effects of damage to critical ecosystems, including the loss of biodiversity and increased carbon emissions. By blending sustainable practices with a scalable approach to commercial forestry, Komaza is aiming to reverse these impacts, while supporting the livelihood and well-being of local communities.

Apple is partnering with Conservation International and Komaza to invest in the micro-forestry model and its positive impacts on carbon removal, biodiversity conservation, and socio-economic development. Through our partnership, Conservation International will help Komaza measure and value the carbon removal impact of this forestry work to produce verified carbon credits.

These efforts build on our history of work to protect and restore critical ecosystems including forests, wetlands, and grasslands around the world. Through our partnerships with World Wildlife Fund and The Conservation Fund, we have protected or improved the management of over 1 million acres of forests in China and the U.S. And in 2018, we partnered with Conservation International, INVEMAR Research Institute, and CVS (Corporación Autónoma Regional del Valle del Sinú) to protect and restore 27,000 acres of mangrove forest in Colombia. Mangroves are critical ecosystems at both the local and global scales. They fortify coastlines, supporting local communities and their livelihoods.



And mangrove forests also sequester more than 10 times the carbon than forests on land. Our partnership with Conservation International was the first project to accurately capture the value of this “blue carbon” and, for the first time in 2021, the project will issue carbon credits that help to further conservation efforts in the region.

We have also partnered with Conservation International in Kenya to protect and restore savanna with the Maasai Wilderness Conservation Trust and the Big Life Foundation in the iconic Chyulu Hills region. Our funds will help to repair damage caused by unsustainable land-use practices that degrade grasslands and soils, endanger local wildlife, release carbon into the atmosphere, and deprive local communities of vital agricultural resources.

Both the mangrove and savanna ecosystems have significant carbon removal benefits—as well as offering an opportunity to work with local partners to make a direct impact. These solutions complement our existing efforts to find efficiencies and reduce the carbon footprint of our operations. As we work to maintain our carbon neutrality each year, these projects represent an investment in ecosystems that will last for generations.

Above: Apple is partnering with Conservation International to invest in Komaza, a responsible “micro-forestry” company, to help measure and value the carbon removal impact of its forestry work. Photo credit: Will Swanson, courtesy of Komaza

Resources



Goals and highlights

Last year, we made our most ambitious commitment yet—to achieve carbon neutrality by 2030. The resources we depend on to make our products have a significant impact on this goal. This is yet another reason to make the most of the resources we use—through our work to one day make our products using only recycled and renewable materials, to build long-lasting products with a lower carbon intensity, and to create recycling technologies to end our reliance on carbon-intensive mining. And all of these efforts also help conserve the earth's finite resources.

Goals

Use only **recycled and renewable** materials in our products and packaging

Eliminate plastics in our packaging by 2025

Minimize the use of freshwater resources in water-stressed locations

Eliminate waste sent to landfill from our corporate facilities and our suppliers

Highlights

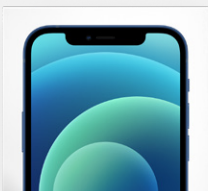


40% of all material in MacBook Air with Retina display comes from recycled sources

10.4 million devices refurbished for new users in fiscal year 2020¹⁸



65% less single-use plastic in packaging compared to 2015



99% recycled tungsten in iPhone 12 and Apple Watch Series 6



All established final assembly sites are **Zero Waste certified**¹⁹

Our approach

We take responsibility for our relationship with all of the resources that make our work possible. Our efforts to responsibly source materials, minimize water use, and eliminate waste are directly connected to the creation of our products—and span both our own operations and those of our suppliers.

We start by looking at our products and the resources we use to make them. We're moving toward a future where we build products using only recycled and renewable materials, and at the same time, implement low-carbon designs. We aim to build durable, long-lasting products to make the best use of the resources inside them. When a product is ready to be recycled, we're engaging partners and designing technologies to recover raw materials for new products.

Water is another vital resource for our business. We rely on it to manufacture products and run our offices, data centers, and stores. That's why we are optimizing our current use, leveraging alternative and recycled sources of water, and managing our discharge responsibly.

We're working to eliminate landfill waste—to conserve the world's resources and protect those communities disproportionately exposed to waste. We make progress by reducing the amount we create, recycling wherever possible, and innovating opportunities for reuse. This is a collaborative effort. Our suppliers have the greatest ability to help us conserve resources, to realize the potential for recycling, and to lower our carbon footprint by doing more with less.

Within resources, we focus on three main areas of impact:



Materials

Transition to only recycled or renewable materials in our products and packaging, and maximize material efficiency, product longevity, and recovery.



Water stewardship

Reduce freshwater use, transition to alternative sources, improve the quality of water we discharge, and protect shared water resources.



Zero waste to landfill

Minimize overall waste generated and eliminate waste sent to landfill from key manufacturing facilities as well as corporate offices, data centers, and retail stores.

Materials

Our products rely on the availability of high-quality materials. We're increasingly sourcing more of these valuable commodities from circular supply chains, drawn from recycled content and renewable resources.

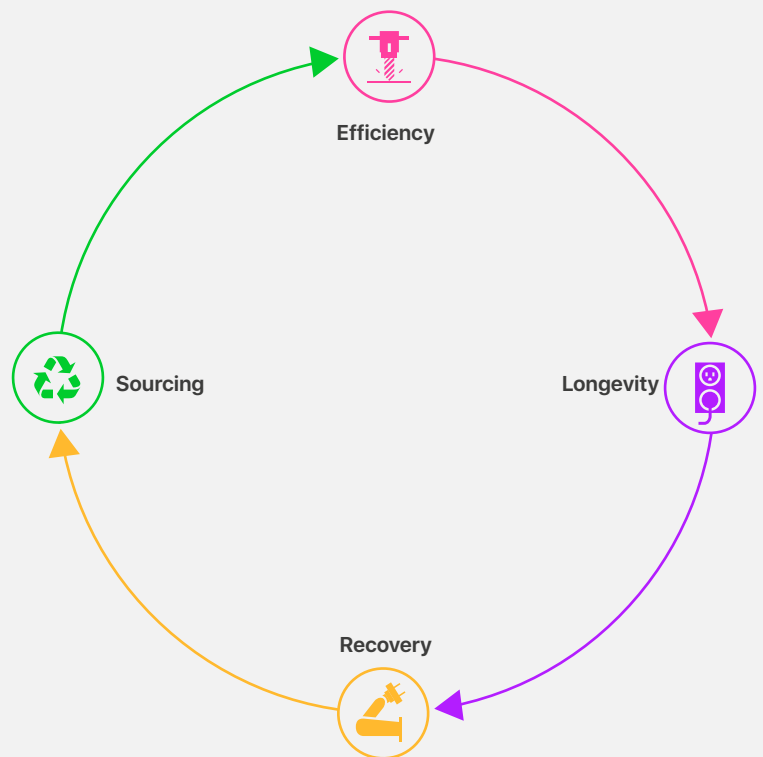
Our goal is to one day achieve independence from mined resources—those continually extracted from the earth in a carbon-intensive process. As we progress toward this goal, we're doing so without sacrificing the quality and durability of our products. And we're working on innovations in recycling to enhance material recovery and support circular supply chains for ourselves and others.

The scale of this challenge is significant. But so is our potential to have an impact. The changes that we push forward affect the people who interact with our products, influence the markets in which we operate, and create change for broader global communities. Whether through technological innovation or by achieving regulatory cooperation, our actions carry results that extend beyond our business.

We're using three different levers to reduce our footprint and achieve circularity:

- **Sourcing and efficiency:** Sourcing recycled and renewable materials for our products and packaging, and using these materials more efficiently. And we source materials responsibly, whether from virgin, recycled, or renewable sources.
- **Product longevity:** Making the most of the materials we use through designing long-lasting products. We design durable hardware, leverage software updates to extend functionality, provide convenient access to repair services, refurbish devices for their next user, and reuse parts with more to give.
- **Product end-of-life:** Enhancing product collection and recycling innovation, so we and others can use old devices as raw material sources for the future.

How we define a circular supply chain



- **Sourcing**
Use responsibly-sourced recycled and renewable materials
- **Efficiency**
Minimize material inputs
- **Longevity**
Extend product life
- **Recovery**
Collect and recover materials from end-of-life

Sourcing and efficiency

For the last few years, we've worked diligently toward the goal of relying solely on recycled and renewable materials for our products and our packaging.

We've signaled to markets that we care about the source of our materials—and seek those that can be used continually without depleting the earth's resources. Many partners have joined us in these efforts, and we hope to engage others as we see a broader global transition. We continue to source materials responsibly and use materials efficiently in the design of new products.

Last year, we saw progress across materials—from expanding our use of recycled aluminum enclosures to sourcing solder made with recycled tin. In October, we introduced iPhone 12 and iPhone 12 Pro, the first Apple products made with 99 percent recycled tungsten and 98 percent recycled rare earth elements. And we released seven products with more than 20 percent recycled content. MacBook Air with Retina display (2020) had the highest total—made with more than 40 percent recycled content device-wide, including 100 percent recycled aluminum in the enclosure. These and other innovations helped us increase our use of recycled or renewable content to 12 percent of all the material used in products this year. And more than half of our recycled materials have been third-party certified.²⁰

We continue to focus our efforts on our 14 priority materials, which accounted for more than 90 percent of the total product mass shipped to customers in fiscal year 2020. We prioritized these materials based on their environmental, social, and supply impacts outlined in their [Material Impact Profiles](#). This year, we expanded the profiles to include a new indicator for biodiversity, helping us assess the likelihood that a material may come from critical habitats. We recognize that mining activities affect local species and ecosystems, so with this and other information captured in the profiles, we prioritize materials to switch to recycled and renewable sources.

At the same time, we're adhering to rigorous sourcing standards. Our recycled and renewable material specifications follow standards set out by the international community. To ensure that these materials meet our requirements, we ask our suppliers for third-party certifications.²¹ This helps us confirm a material has been recycled or comes from a renewable source—one that can continually produce without depleting the earth's resources.²² As we introduce materials from new sources, we continue to evaluate each for its chemical safety. This allows us to scale our use of materials that are better for the environment, while ensuring they are also safe for use in our products.

This diligence carries over to our efforts to source responsibly, regardless of whether we are using virgin or recycled materials. This is a natural extension of our environmental efforts—and it draws from the same reliance on international standards. Our Responsible Sourcing Standards are based on leading international guidance, including the United Nations Guiding Principles on Business and Human Rights and the Organisation for Economic Co-operation and Development (OECD) due diligence guidance.

In 2020, 100 percent of the identified tin, tantalum, tungsten, gold, cobalt, and lithium smelters and refiners in Apple's supply chain participated in an independent third-party audit program. We also map and conduct additional diligence on other materials in our products. We're partnering with the smelters and refiners identified through this process as we build supply chains for recycled material as well. And we continue to engage with the Responsible Materials Initiative—a multi-industry initiative focused on responsible mineral sourcing issues—and other industry partners to promote transparency across supply chains and to establish additional auditing and due diligence systems.

Our efforts to use recycled and renewable materials also support our climate goals. In most cases, the recycled content has a lower carbon footprint than primary materials. As we continue to drive efficient, sustainable use of the earth's resources, we're working with policymakers to support international standards that enable the use of these materials globally.



We're prioritizing 14 materials to transition to recycled and renewable content:

Aluminum
Cobalt
Copper
Glass
Gold
Lithium
Paper
Plastics
Rare earth elements
Steel
Tantalum
Tin
Tungsten
Zinc



Apple is committed to setting the highest standards for responsible sourcing of the materials used in our products. For more information, read our [Supplier Responsibility Report](#) and our [Conflict Minerals Report](#) on the following site: [Supplier Responsibility](#).

Product environmental features

+ indicates recycled content is new for product

1 Enclosure or case

Made with **100%** recycled aluminum

Found in products

MacBook Air
Mac mini
iPad
iPad Air +
Apple Watch

2 Main logic board

Made with **100%** recycled tin solder

Found in products

MacBook Air
MacBook Pro
27-inch iMac +
Mac Pro +
Pro Display XDR +
Mac mini
iPad Pro +
iPad Air
iPad
iPad mini +
iPhone

3 Braided solo loop

Polyester yarns are made with **100%** recycled materials²³

Found in products

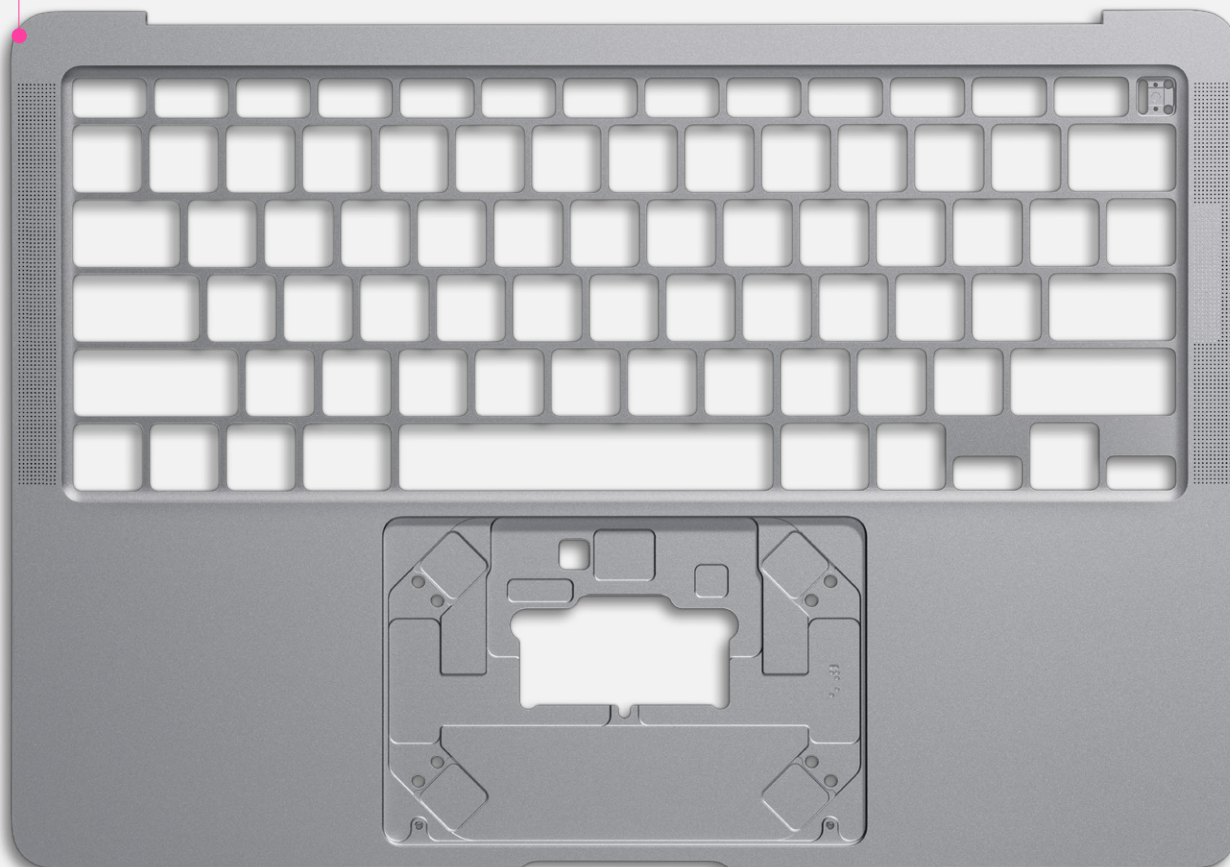
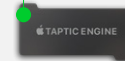
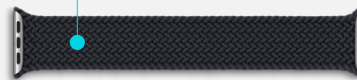
Apple Watch +

4 Taptic Engine

Made with **100%** recycled rare earth elements and **100%** recycled tungsten²⁴

Found in products

iPhone 12 +
Apple Watch Series 6 +



100% recycled tungsten in the Taptic Engine

Tungsten is one of the many materials that help make Apple products come to life. It is a key metal used in our Taptic Engine, which gives devices like iPhone and Apple Watch their unique feel through haptic feedback. It is also a material we've prioritized as we actively source recycled alternatives.

Last fall marked a significant achievement in our journey—we released iPhone 12 and Apple Watch Series 6 with 100 percent recycled tungsten in the Taptic Engine. This meant we used 99 percent recycled tungsten in each device, and this marked a first for a smartphone.

This achievement grew out of many years of work. We kicked off this effort in 2016, in parallel with our goal of finding recycled sources for metals like tin, by mapping the supply chain and identifying available recycled content. We eventually identified a recycler that produced 100 percent recycled tungsten—showing us that our goal was possible. We continued to engage suppliers to use the recycled material until we reached scale; in some cases, working with suppliers to revamp their entire manufacturing processes to focus only on recycled inputs.

Locating and sourcing recycled material was one element of the process. The other, equally important task is to verify that this resource will perform at the level required for our products. With tungsten, we undertook more than a year of testing to determine whether we could utilize the recycled material provided by the new sources. Eventually, we determined that the recycled content did meet our rigorous standards.



The next part of the process was supply chain architecture: the important task of getting the recycled raw material to our parts suppliers. While tungsten is widely recycled, the streams come from varied sources and are of differing qualities. One challenge is that tungsten used in industrial applications creates two distinct types of scrap. And we found through our testing that only one—which goes through a more complicated recycling process—could be used in our applications.

Once this new supply chain was in place, we had established the path to using 100 percent recycled tungsten in the Taptic Engine. And this transition creates impact—we will avoid using the equivalent of an estimated 300,000 metric tons of mined material by sourcing recycled tungsten for iPhone 12 and Apple Watch Series 6. Some of the impact of our work extends beyond our own footprint as well. By building a supply chain solely for recycled content, we helped advance the market for this recycled material and further incentivize recovery across our industry.


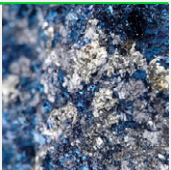

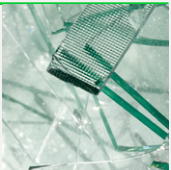
Above: We use 100 percent recycled tungsten in the Taptic Engine of iPhone 12, which represents 99 percent of the total tungsten in the device.



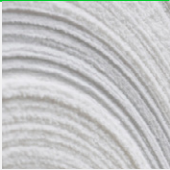


Progress by material






The transition to recycled and renewable resources presents inherent challenges, as well as opportunities. By engaging each, we've made progress and gained a clear understanding of the task ahead.

Key challenges to circular supply chains:

- **Regulatory barriers:** Transboundary movement regulations—originally intended to create environmental protections—inadvertently inhibit the ability to recover materials from scrap, end-of-life products, and parts for use in new products.
- **Contamination:** The manner in which materials are recovered for recycling can impact the composition of the material, reducing its purity and usability.
- **Technical properties:** Recycled or renewable material may have unique technical properties that need to be accounted for in product design.
- **Availability:** End-of-life products and industrial sources of scrap for recycling may not be readily available, constraining the supply of recycled material. And the production of renewable material is sometimes limited.
- **Supply chains:** Recycled or renewable content may not be easily accessible on the market, requiring the development of new supply chains.
- **Transparency:** Information about the source of materials—whether mined, recycled, or renewable—may not be readily available.
- **Scale:** Identifying and mobilizing high-quality recycled or renewable materials to scale use across our products.

Material	Primary use	Key challenges	Progress	
Aluminum	Enclosures Batteries Display Main logic board	<ul style="list-style-type: none"> ● Regulatory barriers ● Contamination ● Technical properties ● Scale 	After creating a new aluminum alloy that incorporates recycled content without compromising product performance, we're now scaling recycled content across products. We continue to use 100 percent recycled aluminum in the enclosures of Apple Watch, MacBook Air, and Mac mini, and expanded to iPad and iPad Air. The transition to recycled aluminum also produced a significant carbon savings—supporting our pursuit of low-carbon designs. Our recycled material comes from several sources, including Apple's manufacturing scrap and post-industrial sources. And in 2020, we expanded our sourcing of recycled aluminum to include post-consumer scrap recovered from building and construction projects.	
Cobalt	Batteries	<ul style="list-style-type: none"> ● Regulatory barriers ● Availability 	We've worked to increase our recycled cobalt year after year—doubling the amount of recycled material used in fiscal year 2020 from the previous year. And the cobalt from iPhone batteries disassembled by Daisy is being returned to the general market. This more efficient and economical approach makes the material available to others beyond our supply chain, and continues to create a positive environmental benefit.	
Copper	Enclosures Batteries Cameras Printed circuit boards Power adapters Connectors	<ul style="list-style-type: none"> ● Contamination ● Supply chains ● Scale 	We're reducing the copper needed to build key components, while also piloting the use of high quantities of recycled content. We're continuing to use foils that rely on less copper in our printed circuit boards (PCBs), where we've also incorporated copper from recycled sources. We're working to apply this same approach to the foils we use in batteries and other modules.	
Glass	Enclosures Displays	<ul style="list-style-type: none"> ● Contamination ● Technical properties ● Availability ● Scale 	We've worked to incorporate recycled content into the material we use to produce glass parts—keeping glass at its highest-purity use. As we collect and reuse scrap in new parts, we use the material more efficiently. And this year we used recycled glass in multiple parts of our iPhone devices—including the cover glass.	

Material	Primary use	Key challenges	Progress	
Gold	Main logic board components Printed circuit boards Camera Connectors	<ul style="list-style-type: none"> Regulatory barriers Transparency 	<p>We have looked to both increase the use of recycled content and reduce the amount of gold required to make components, and at the same time, we're supporting greater transparency in global supply chains.</p> <p>We've focused some of our reduction efforts on reassessing the gold plating requirements in our components. Through this, we were able to build the printed circuit board for iPhone 12 with 50 percent less gold plating than the prior generation. We also continue to pursue the use of recycled material where possible—including 100 percent certified recycled gold on the plating of select circuit boards for iPhone.</p>	
Lithium	Batteries	<ul style="list-style-type: none"> Regulatory barriers Availability Supply chains 	<p>We're working to shift our use of virgin sources of lithium to recycled materials recovered from batteries, as these options become more viable and economical. This involves testing to ensure the recycled material meets our performance standards. And we're forging relationships with partners and recyclers capable of bringing more of this material into the market.</p>	
Paper	Packaging	<ul style="list-style-type: none"> Technical properties 	<p>Progress toward our 2025 commitment to eliminate plastics in packaging centers around switching to innovative fiber replacements. We're expanding the number of products that use fiber-based packaging and creating new fiber-based designs, like the paper screen films on iPhone 12. As we use more fiber, we continue to engage in circular supply chains that recycle and regenerate fiber sources. All of the wood fiber in our packaging comes from recycled materials or responsibly managed forests. And we're upholding our commitment to protect or create responsibly managed forests sufficient to cover the amount of wood fiber we use in our packaging. By educating customers on the recyclability of our packaging, we aim to contribute back to the recycled material market as well.</p>	
Plastics	Enclosures Speakers Keyboards	<ul style="list-style-type: none"> Regulatory barriers Contamination Technical properties Transparency 	<p>Plastics encompass a wide range of materials, and we're continuing to identify recycled plastics that meet our high standards. And we're scaling the use of these materials across our products. The mesh fabric of HomePod mini, for example, is made with 90 percent recycled plastic. And we use 100 percent recycled polyester yarns in the Apple Watch Braided Solo Loop.²⁵ In total, we introduced more than 70 parts with an average of 50 percent recycled plastic in fiscal year 2020. And 17 additional components used plastics made from bio-based content rather than fossil fuels, an important step as we continue to pursue certified renewable plastic sources.</p>	
Rare earth elements	Enclosures Speakers Receivers Taptic Engine Cameras	<ul style="list-style-type: none"> Regulatory barrier Supply chains Scale 	<p>After proving we could make a high-performance magnet using only recycled rare earth elements, we're focused on expanding use across devices. We've successfully introduced recycled rare earth magnets in several products this year including Apple Watch, HomePod mini, iPad Air—and most notably, iPhone including MagSafe accessories. iPhone 12 uses the highest concentration of any iPhone yet: 98 percent recycled rare earth elements in the whole device. We're also working to reduce the total material used. By switching to a new cutting technology, we reduced the rare earth elements needed to manufacture MagSafe components by 12 percent.</p>	

Material	Primary use	Key challenges	Progress	
Steel	Enclosures Screws Small parts	<ul style="list-style-type: none"> Regulatory barriers Contamination Technical properties 	This year, we saw the results of our efforts to reduce the total amount of steel in the iPhone 11 Pro enclosures, saving nearly 10,000 metric tons of steel in fiscal year 2020. And we continued to improve steel efficiency in iPhone 12 Pro manufacturing. This is an example of our low-carbon design approach, which seeks to increase the use of recycled materials and decrease the total amount of material required. Since steel is highly recycled, our main focus is keeping it in the highest-quality form possible. That's why we continue to work to make sure high-purity steel gets recovered from our manufacturing scrap and our products at end-of-life.	
Tantalum	Capacitors	<ul style="list-style-type: none"> Regulatory barriers Availability Supply chains 	While a market exists for recycled tantalum, we continue to address the challenge of building new supply chains to provide 100 percent recycled content at the quality and scale we need. Recovery from end-of-life electronics remains an area of opportunity that we're actively investigating to develop further use of this recycled material.	
Tin	Printed circuit boards	<ul style="list-style-type: none"> Regulatory barriers Scale 	In fiscal year 2020, more than 25 percent of our tin came from recycled sources as we continued to scale our use. Our focus remains on its application in the solder of the main logic boards of our iPhone, iPad, MacBook, and select Mac devices. We're also continuing to use recycled tin in our accessories, including our power adapters and the Wireless Charging Case for AirPods Pro. And we introduced recycled tin solder on the True Tone flash of iPad Pro and the wireless charger for Apple Pencil as well.	
Tungsten	Taptic Engine	<ul style="list-style-type: none"> Regulatory barrier Technical properties 	In 2020, we used 100 percent recycled tungsten in the Taptic Engine of iPhone and Apple Watch for the first time, which represents 99 percent of the total tungsten in the device. In total, more than 35 percent of the tungsten we used in fiscal year 2020 came from recycled sources. And with the help of our disassembly robots, Daisy and Dave, the tungsten from our Taptic Engine can be recovered and recycled.	
Zinc	Main logic board Power adapter	<ul style="list-style-type: none"> Technical properties Supply chains 	We continue to work to identify high-quality sources of recycled zinc, a challenge as the material is prone to accumulate impurities during recycling. And each source we identify, we rigorously test to ensure the recycled materials meet our high performance standards.	

Packaging

The final step in the iPhone unboxing process—peeling back the protective film covering the screen—marks the moment when the device is ready to be used. This year, iPhone 12 owners will notice something new when they unbox their devices.

We've replaced the traditional transparent protective plastic film with a paper alternative. It's a small detail, but part of our larger goal to eliminate all plastics in our packaging by 2025. We've made significant progress toward this goal since 2015, replacing large plastic trays, wraps, and foam cushioning with fiber alternatives. These changes have allowed us to drastically cut plastic use, including an 80 percent reduction in plastic packaging in the 16-inch MacBook Pro. In fiscal year 2020, all newly released iPhone, iPad, Apple Watch, and MacBook devices shipped in packaging made with more than 90 percent fiber.

Now we're focusing on the detailed work of addressing the smaller, but no less significant, uses of plastic. The pouch enclosing Apple Watch, for example, is made from paper, as are the folded wraps securing cables for iPad, iPhone, AirPods, and MacBook. And we supply the wood fiber for all of our packaging from recycled sources or responsibly managed forests.²⁶

We've set these goals as part of our broader strategy to reduce waste through eliminating single-use plastics and focusing on recycled and renewable materials in our products and packaging. And as countries around the world adopt regulatory efforts with similar goals, we find ourselves ahead of the curve in meeting new requirements. For example, our transition to paper bags in our retail stores anticipated local regulations on plastic bags in select regions. As countries from Argentina to Spain consider regulations to reduce waste, we also advocate for action that promotes the efficient use of low-impact materials, reduces single-use plastics, and encourages requirements that consider the entire packaging life cycle.

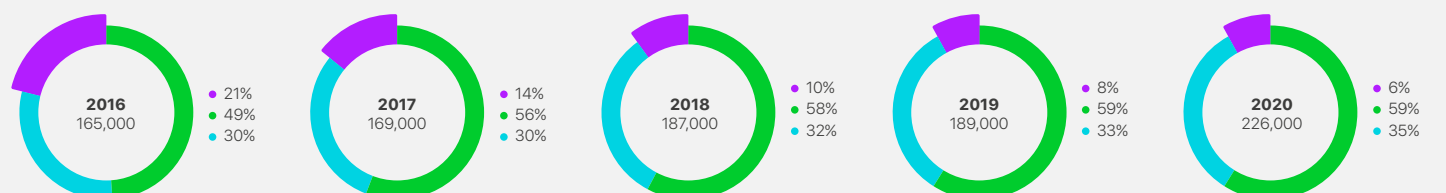
Our ability to proactively meet new standards not only serves the environment, it makes business sense. We're able to tackle design, sourcing, and logistical challenges thoughtfully and in alignment with all of our goals and efforts. This includes our commitment to using responsibly sourced wood fiber while, at the same time, contributing to the global supply of these responsible materials. Through partnerships with The Conservation Fund and the World Wildlife Fund, we've protected more than 1 million acres of working forests in the U.S. and China. In fiscal year 2020, these forests generated enough responsibly sourced fiber to balance all the fiber used in our packaging.²⁷



Our white paper on [Apple's Paper and Packaging Strategy \(PDF\)](#) details our approach toward creating responsibly designed and sourced packaging.

Packaging fiber and plastic footprint* (metric tons)

We've reduced plastic in our packaging by 65 percent since 2015. And since 2017, 100 percent of the virgin wood fiber used in our packaging has come from responsible sources.



* These data include the materials used in our packaging. Fiber used at our corporate facilities represents less than 1 percent of our overall fiber use.

** Since 2017, all of the virgin wood fiber used in our packaging has come from responsible sources. Responsible sourcing of wood fiber is defined in [Apple's Sustainable Fiber Specification \(PDF\)](#). We consider wood fibers to include bamboo.

Product longevity

Apple designs its products for longevity.

Our customers expect their devices to be ready when they need them, with minimal interruption for maintenance or repair. We believe designing long-lasting products encourages our customers to come back to Apple for their next one. And by encouraging our customers to access the value of their current device through Apple Trade In or third-party trade-in platforms, not only are we making their next purchase more affordable—we are also enabling a new customer to experience Apple products and services. And this approach is good for the planet. Keeping a product in use as long as possible—whether for one customer or more over the course of the product's life—enables us to get the most out of the resources used to build the product.

Because our design process prioritizes longevity, iPhone devices hold their value for longer than the competition. Apple delivers on our commitment to provide long-lasting devices by building durable hardware designed to endure the rigors of everyday use, offering years of software updates to unlock new features and functionality, and providing convenient access to safe and reliable repair services for whenever they might be needed. We aim to support the broadest range of devices possible so more customers can benefit from advances in software, whether their device is new or several generations older. We also strive to continuously improve durability with every generation of a product by delivering features that minimize the need for repair, such as water resistance and better drop performance. And we're improving the repairability of devices and expanding options

iPhone longevity journey

- ✓ Repairable at retail stores, Apple Authorized Service Providers, and central repair locations
- ✓ Features to enhance durability

iPhone (1st generation)	iPhone 4	iPhone 6s	iPhone X	iPhone 12
<ul style="list-style-type: none"> ✓ SIM tray 	<ul style="list-style-type: none"> ✓ SIM tray ✓ Battery ✓ Haptics ✓ Rear camera 	<ul style="list-style-type: none"> ✓ SIM tray ✓ Battery ✓ Haptics ✓ Rear camera ✓ MLB ✓ Display 	<ul style="list-style-type: none"> ✓ SIM tray ✓ Battery ✓ Haptics ✓ Rear camera ✓ MLB ✓ Display ✓ Speaker ✓ Enclosure ✓ Splash, water, and dust resistant: IP67 (maximum depth of one meter up to 30 minutes*) 	<ul style="list-style-type: none"> ✓ SIM tray ✓ Battery ✓ Haptics ✓ Rear camera ✓ MLB ✓ Display ✓ Speaker ✓ Enclosure ✓ Splash, water, and dust resistant: IP68 (maximum depth of six meters up to 30 minutes*) ✓ Ceramic Shield
				
2007	2010	2015	2018	2020

* iPhone X and iPhone 12 models are splash, water, and dust resistant and were tested under controlled laboratory conditions. iPhone X has a rating of IP67 under IEC standard 60529 (maximum depth of 1 meter up to 30 minutes). iPhone 12 has a rating of IP68 under IEC standard 60529 (maximum depth of 6 meters up to 30 minutes). Splash, water, and dust resistance are not permanent conditions and resistance might decrease as a result of normal wear. Do not attempt to charge a wet iPhone; refer to the user guide for cleaning and drying instructions. Liquid damage not covered under warranty.

for repair around the world—including to independent repair businesses—so our customers can access repair services should they need it. Put together, it's no surprise that our active installed base of products grew to 1.65 billion devices in the last year.

Designed for durability

We design for durability because long-lasting products that minimize repair or replacement make for a better customer experience. Apple products are designed to endure daily life, and an essential element of the product experience is confidence in the reliability of the device.

This work involves developing innovative designs that are engineered to withstand rigorous conditions, coupled with testing to assess them against our strict durability standards. We set these standards according to in-depth user studies to understand how our customers use—and misuse—their products. To measure against these requirements, we design custom test methods to better simulate real-world conditions—like an accidental drop.

During each product's development, thousands of units are tested, and each test informs the next round of design. Engineers in our Reliability Testing Lab measure the performance of materials, components, and fully assembled products to ensure every aspect of our product is thoroughly assessed for durability. For example, Apple Watch prototypes are exposed to different liquids like pool water, ocean water, and synthetic sweat to make sure devices are ready to be used during exercise. With our drop tower, we let products fall from dozens of different heights and angles onto a range of surfaces to improve their resilience to an accidental drop. And we test recycled or renewable materials to the same performance standards as other materials—making sure our products stay as durable as ever, even as we explore new material sources. Through our iterative testing approach, we continuously improve designs until they meet our strict standards and are ready to face the world.



With each new product, we strive to improve on the durability of the prior generation. Last fall, we released iPhone 12 with Ceramic Shield, a transparent ceramic cover glass that has four times better drop performance than the previous generation.²⁸ It is an innovation that contributes to the durability of each device, minimizes the need for replacement parts, and helps retain product value that customers can access through trade in. This advancement enhances durability alongside features like the IP68 water resistance of iPhone 12.²⁹ And each improvement we make is one more step in our ongoing journey to creating even more durable products.

Above: A solar test replicates and accelerates the UV exposure a product would experience by a window or in full sunlight over its lifetime.

Convenient, safe, and reliable repairs

We design our products for durability in order to minimize the need for repair. But in the instance a repair is needed, we believe our customers should have convenient access to safe and reliable repair services, to get their product back up and running as quickly as possible.

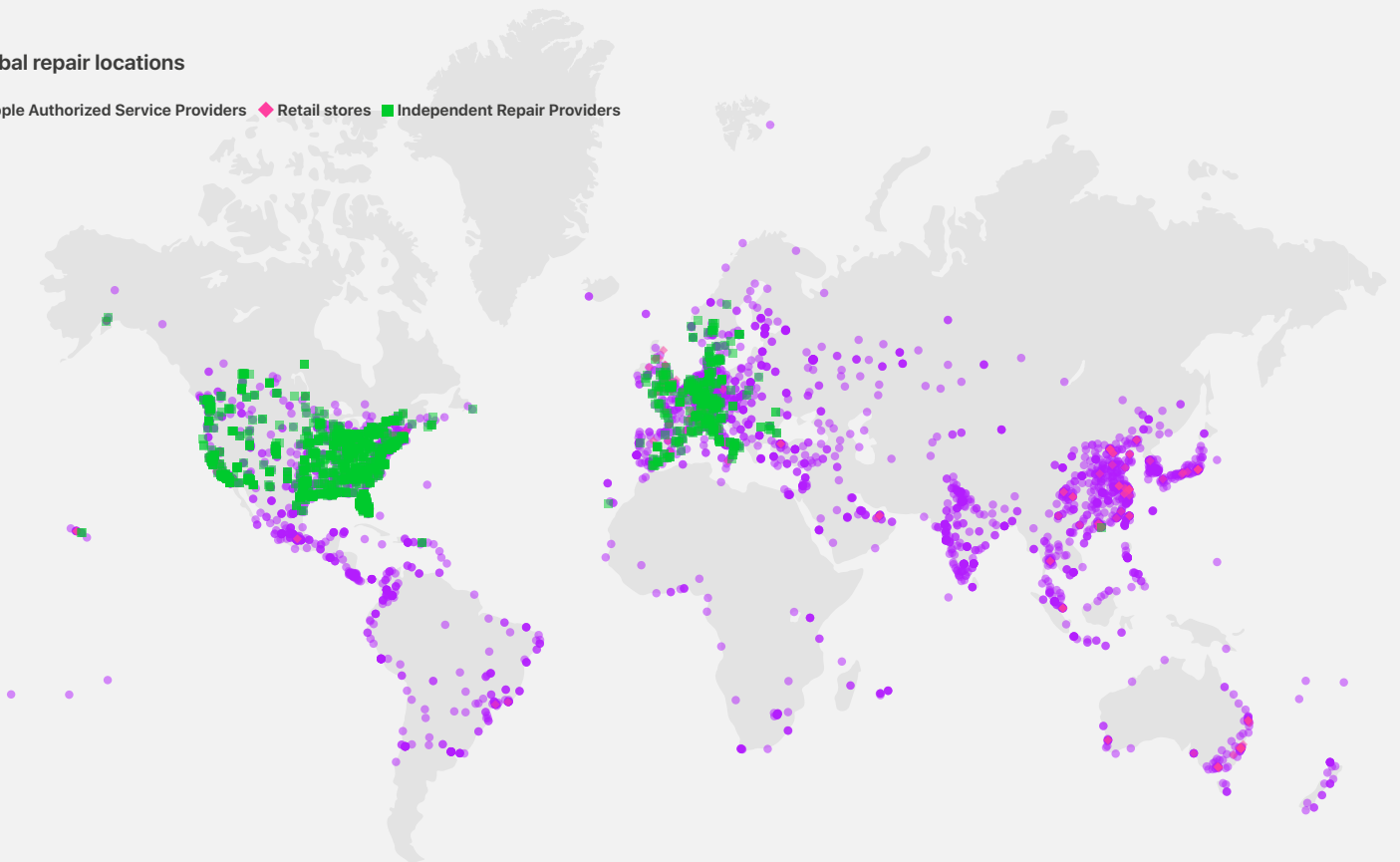
We are continuing to broaden the availability of repair services around the world. Our customers can receive repair with genuine parts, whether they go to an Apple Store, Apple Authorized Service Provider (AASP), participating Independent Repair Provider, mail-in repair center, or receive onsite service. We have grown our network to over 5000 AASP locations and over 1500 Independent Repair Providers around the world.

Our Independent Repair Provider program, now in its second year, is designed to enable independent repair businesses—large and small—to have access to Apple genuine parts, tools, diagnostics, and training. The program underwent two major changes in 2020: expansion to Europe and Canada, and inclusion of Mac repair in addition to iPhone repair. We're also increasing coverage for onsite service options in select cities across the United States, providing the ultimate convenience to our customers. And we've trained more than 265,000 repair technicians to provide quality repair support. We're also improving the repairability of many of our products. The new iPhone 12 design, for example, allows for more repairs to be performed at more repair locations than ever before.

We're constantly working to improve the convenience of our repair services as well as the durability of our devices. And we know there's more work to be done on this journey.

Global repair locations

● Apple Authorized Service Providers ● Retail stores ■ Independent Repair Providers



Software support keeps our products up to date

Product longevity relies as much on software support as it does on durable hardware design. Our customers expect us to deliver the latest software features and security updates to their existing devices for years. That's why we work to continually improve the operating systems that power our products. We engineer each software release to make sure it runs beautifully on all supported devices. This helps us maximize the number of customers who benefit from the latest software updates, regardless of whether their device is brand new or several generations older.

iOS 14, our most recent release, extends support back to iPhone 6s (2015). iPadOS 14 compatibility goes back to iPad Air 2 (2014) and macOS Big Sur supports MacBook models from 2013 onward. The updates in each operating system make the latest capabilities—from widgets on iPhone to the latest macOS design—available to a broad user base, keeping their devices up to date and extending their usability. These updates also ensure that more customers have access to the newest security and privacy features available.

Many of our customers are eager to use these updates. By February 2021, 86 percent of all iPhone devices introduced in the last four years had updated to iOS 14. And iPadOS 14 was being used on 84 percent of devices released in the last four years. Our continually high rates of adoption show that our customers value these software updates.

Refurbishing extends the life of devices

Products that last longer make the best use of the resources we rely on to create them. By finding ways to refurbish and reuse these products, we can lower each device's impact on the environment—including their carbon intensity per year of life. And by building our products to serve more than one owner and encouraging customers to exchange devices for an upgrade, we extend the life of our products.

We collect devices for refurbishing through a number of programs including Apple Trade In, the iPhone Upgrade Program, AppleCare, and our corporate Hardware Reuse Program. In fiscal year 2020, we sent 10.4 million devices to be refurbished for new users. We've also expanded our Trade In program to 25 countries, to make this program as convenient and accessible as possible to our customers.

Our customers drive the success of our trade-in programs and those of third parties. Whether through trading in their devices, passing down their device to a family member, or purchasing refurbished products, their actions recognize the long-term value we've designed and built into our products. And it enables us to make progress toward our goals of reducing our overall environmental footprint.

Reuse realizes the value of our materials and parts

After extending the life of devices for as long as possible, we aim to do the same for the parts inside. Through recovery and reuse of components from products at end-of-life, we can realize their potential—either using them for replacement parts or in new creative applications. By extending their use as long as possible, we're making the most of the materials and energy needed to build them in the first place.

We've expanded our efforts to recover more parts from end-of-life devices for reuse. Those parts that can be refurbished to our high quality and performance standards can be reused as replacements. We're then able to repair more devices while creating fewer spare parts. Our teams continue to look for innovative opportunities to reuse accessories sent for recycling as well. For example, we send collected power cables and adapters to our final assembly sites, where they power production lines.



Visit our **Certified Refurbished** site where we offer like-new products backed by a one-year warranty and the Apple Certified Refurbished promise.³⁰

Product end-of-life

Our responsibility for our products begins with the design process and carries through end-of-life. While we first look for opportunities for reuse, a product or part that no longer functions as intended can still be a source of valuable materials.

Through recycling we can realize the potential of these sources. And by keeping materials in the highest-quality form possible, we can reduce the energy needed to manufacture new products, driving down emissions. It is through this outlook on the end-of-life of our products that we can design and build the next generation of devices even better for our planet.

Optimizing recycling through partnerships and innovation

Our approach toward creating circular supply chains rests on how well we recycle our products. Making recycling options easy and accessible is key to these efforts. At our retail locations, our customers not only can experience and purchase our latest products, but also can recycle devices they're no longer using. Through both retail and online platforms like Trade In, we continue to provide product take-back and recycling collection programs in 99 percent of the countries where we sell products. These programs allowed us to direct more than 39,000 metric tons of e-waste to recycling globally in fiscal year 2020.

To do this, we seek out and partner with recyclers who are the best-in-class, those who show high recovery rates and can uphold our standards. To ensure the effectiveness of these partnerships, we audit our recyclers for compliance with environmental, health, and safety regulations, and encourage best practices. In fiscal year 2020, we conducted more than 50 audits globally—and we performed additional audits relating to security. And all of our recyclers in North America are either e-Stewards or R2 certified, the electronics industry's leading certifications.

We also partner with recyclers to make sure there is a recycling solution for each Apple product. This is a collaborative effort. Through training and ongoing support, we help our recycling partners develop the ability to disassemble our products, recovering as much material as possible while limiting waste. This year, we've also launched new [Apple Recycler Guides](#) to provide guidance for professional electronics recyclers on how to safely disassemble Apple products—and maximize recovery of resources. The guides provide valuable insight on the steps for recycling, as well as the recommended downstream material recycler for the disassembled parts. Launched with our Pro Display XDR, these efforts will continue to expand to other products.

Product by product, this has a cumulative effect. As we continue to improve material recovery, we're making sure more high-quality recycled content is available on the market for us and others to use.

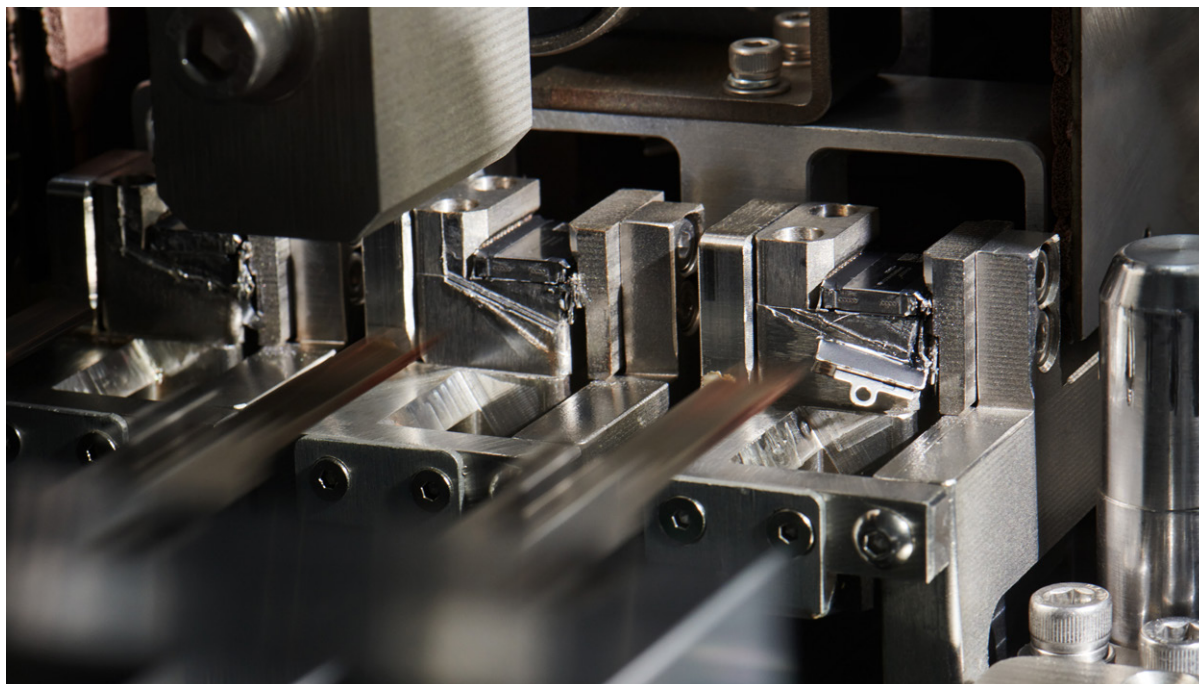
Developing disassembly, improving recovery

Disassembling a product for recycling presents an inherent challenge: What is the best way to minimize waste and maximize recovery? We've approached this challenge at our Material Recovery Lab (MRL) based in Austin, Texas, where our team works on developing better, more efficient recycling technologies. In 2020, our engineers worked virtually with this year's class of MRL interns from universities across the U.S. and Canada to innovate new approaches to disassembly.

We've continued to build upon our recycling innovations. Dave, our newest recycling robot, disassembles the Taptic Engine from iPhone to enable the recovery of key materials such as rare earth magnets, tungsten, and steel. And, we're exploring new ways to expand these recovery capabilities to other products. We're also designing, developing, and testing additional disassembly tools—including new methods for recovering materials from Apple Pencil. And Daisy, our first disassembly robot, continues to disassemble iPhone devices so recyclers can recover more material inside. Just one metric ton of iPhone main logic boards, flexes, and camera modules disassembled by Daisy contain the same amount of gold and copper as an estimated 150 metric tons of mined earth. These materials make it back to the general market, so that we and others can use recycled materials for the next generation of products.



We support **The Recycling Partnership**, a U.S. nonprofit, in their efforts to improve residential recycling across the country. In 2020, The Partnership developed a first-of-its-kind national recycling database that covers 97 percent of the U.S. population, providing real-time insights on what materials are recyclable locally. The Recycling Partnership also developed a free best practice management guide and tools for communities to use for better disposal of e-waste and lithium-ion batteries.



Left: Dave, our newest recycling robot, disassembles the Taptic Engine from iPhone to better recover key materials such as rare earth magnets, tungsten, and steel.

Designing next-generation technology

We're also taking a long-term approach to recycling innovation. While our current technologies for recovering valuable materials continue to improve, we recognize that new and emerging technologies represent some of the best opportunities to impact the future. And that our investments in research and development can yield transformative change. That's why we're supporting research initiatives that fundamentally reimagine disassembly and recovery.

Our recently completed project with Carnegie Mellon University's Biorobotics Lab developed machine learning models to enable better sorting of e-waste at recyclers. These software models, which learn from different images of devices, aim to provide the next generation of robots with the intelligence to disassemble devices they've never seen before. Typically a model requires a large amount of data—in this case, images of an object—to be able to recognize that object for recycling. Unfortunately, this data is not readily available. This research applies the concept

of domain randomization, by synthetically creating the data real images would provide, to grant robots the ability to recognize a broad, varied stream of e-waste for recycling at scale. The newly developed software will be open-sourced, available to be used by others in new applications throughout the recycling industry.

“Carnegie Mellon University is excited to work with Apple in developing key robotics and artificial intelligence technologies to advance electronics recycling. Apple is the ideal partner for their combination of real-world experience and technical expertise—and they are engaged at every stage of the project. Research like this aims to apply the latest technology to create industry-wide change.”

Matthew Travers

Carnegie Mellon University Robotics Institute³¹

Leading on resource recovery policy

In March 2019, the United Nations convened the fourth session of the Environment Assembly in Nairobi, Kenya.

The event drew representatives of 193 nations and nongovernmental stakeholders from across the globe. Apple was there as well. While much of our resource work centers on innovating technical solutions to enable circular supply chains around our products, there's another equally important task: advocating for the policies that support resource recovery and reuse. Our engagement with the U.N. Environment Assembly and other organizations, including the World Circular Economy Forum, and Platform for Accelerating the Circular Economy where we serve on the board, furthers this goal. We're committed to turning these important conversations into actions, and realizing the benefits to the environment from our preliminary successes across our entire supply chain.

And just as policies can support these efforts, they can also present unintended obstacles. We learned this through our experience with iPhone, where we've had considerable success recovering and recycling material from our devices. For example, the same amount of gold and copper can be recovered from one metric ton of end-of-life iPhone modules as can be extracted from 150 metric tons of mined earth.

That same material was categorized as hazardous waste under some regulations, making it difficult to ship and then return parts to the supply chain. Those regulations exist to provide an essential protection—ensuring that vulnerable communities are protected from global waste streams. Yet we believe there is an opportunity to adjust policies to reinforce critical protections for these communities, while also facilitating circular supply chains that benefit the environment.

Apple is engaging in a dialogue with a diverse set of stakeholders to find a novel solution to this challenge. We believe that countries should have the agency to opt-in to expedite the efficient movement of regulated materials for circular supply chains. But that they should do so in a manner that enables the traceable and responsible movement of recoverable material to preapproved facilities with sound social and environmental practices. This is aligned with the objectives of the Basel Convention and maintains strong protections against the illegal movement of waste, while streamlining shipments to responsible recyclers to allow for circular supply chains to compete with extractive ones. We're open to engaging with and learning from thought leaders who also believe both objectives are possible.

Below: In the hands of the right recycler, iPhone devices disassembled by Daisy can be a valuable source of key materials like gold, copper, and aluminum.



Water stewardship

Water is essential to our operations and product manufacturing.

Freshwater resources are increasingly scarce and vulnerable to the effects of climate change. As a community resource, water is shared by people and ecosystems across very different environments. Our efforts to reduce our freshwater withdrawals and return clean water back to the watersheds in which we operate reflect our commitment to managing this shared resource responsibly.

We apply a context-based approach to water stewardship. The foundation of this is a clear understanding of our local footprint. At our own facilities, we measure and continually monitor our usage, and at our suppliers' sites, we survey and model each facility's impact. This process involves understanding how we use water and how discharge should be handled at each site.

Each area has unique water conditions. Tools like the World Wildlife Fund (WWF) Risk Filter and the World Resources Institute (WRI) Water Risk Atlas provide us detailed profiles of geographically specific water consumption and water-related risks that inform our local strategy. We prioritize those areas with high water risk—where approximately 46 percent of our corporate water use occurs.³² Our strategy goes further to proactively address areas of medium risk as well.

This year, we've adopted a new approach to estimate water use in the far reaches of our supply chain. The data we model combines water survey data collected from more than 1200 direct suppliers with an advanced life cycle assessment model for more accurate estimate of upstream water use. Though it is not common in our industry to consider the impact of the activities of these upstream suppliers, we believe it is essential to addressing our holistic water footprint.

Our efforts to address the water footprint of our corporate sites and of our suppliers' sites focus on the following key efforts:

- Using water efficiently.
- Expanding the use of alternative water sources.
- Discharging water responsibly.
- Enhancing our water stewardship to keep watersheds healthy for all who rely on them.

Improving efficiency across our operations

As our facilities and activities grow, we're working to address the challenges of water usage and efficiency. We prioritize regions with high water risk and focus our efforts on reducing the amount we use. This is site-specific work as we and our suppliers optimize water use for sanitation, climate control, maintaining green spaces, or manufacturing. And we recognize we have progress yet to make.

In fiscal year 2020, our facilities used 1.29 billion gallons of water, about 54 percent of which we discharged back into the watershed for use by others.³³ We saved 111 million gallons of freshwater this fiscal year due to efficiency projects implemented since 2017, including 11 million gallons due to new improvements made this year.³⁴ This progress underscores our commitment to reducing water use.

Behind these numbers are local initiatives. At our Mesa, Arizona, data center, our efforts to upgrade infrastructure and address inefficiencies yielded an improvement in water use efficiency. At one of our locations in Santa Clara Valley, equipment upgrades—including an improved cooling system—resulted in almost 1 million gallons of water savings per year.

While we continue to focus on our corporate water use, we recognize that far more water is used within our supply chain. As we develop our capabilities to model this usage, we find opportunities for water savings across locations. This requires engagement with our manufacturers, who can work with our supplier Clean Water program to access assessment tools and technical guidance needed to make improvements. Some efforts require little investment, like employee education on more efficient rinsing processes. Others require upgrades to water-efficient equipment and wastewater reclamation systems, as well as redesigning manufacturing locations. We partner with our suppliers on solutions that can yield efficiencies and impact our overall usage.

The more than 172 suppliers in our Clean Water program have already demonstrated savings from these initiatives. In 2020, they saved 10.8 billion gallons of water, for a total of 41 billion gallons of water savings since the launch of the program in 2013.

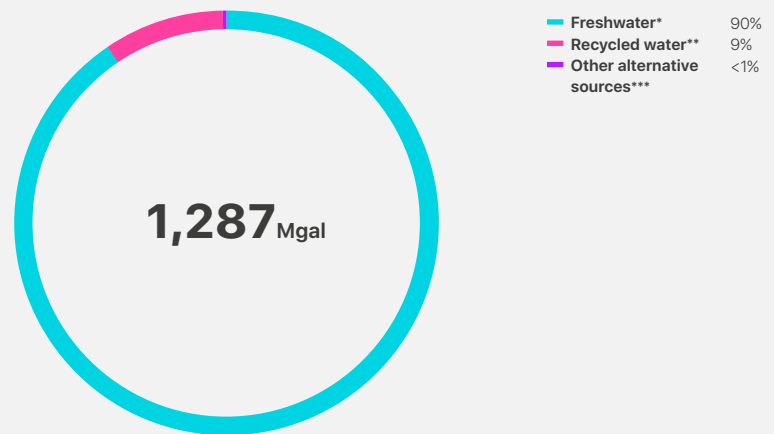
Finding alternatives to freshwater

We're focused on reducing our reliance on freshwater sources. The more we leverage alternative sources of water at each of our locations, the less impact we'll have on the local watershed. These potential alternative water sources include recycled water, reclaimed water, rainwater, and condensate.

Last year, alternative water sources accounted for 9 percent of our total corporate water usage. At Apple locations in Texas, North Carolina, Ireland, and Japan, we utilized rainwater capture systems to source 5 million gallons of water. We're also piloting advanced water recovery systems. In Santa Clara Valley, we installed a 1200-gallon condensate recovery system to collect water produced as a by-product of cooling and air conditioning systems. This not only diverts water away from the local wastewater system, it also creates an onsite source of high-quality water reused directly for irrigation.

Water use at corporate facilities

We track our corporate water use for our data centers, retail stores, and corporate offices.
(millions of gallons)



* We define freshwater as drinking-water quality, the majority of which comes from municipal sources and less than 5 percent comes from groundwater.

** Recycled water represents a key alternative water source. Our recycled water comes primarily from municipal treatment plants, with less than 5 percent from onsite treatment. Recycled water is primarily used for irrigation, make-up water in cooling, or toilet flushing.

*** Other alternative sources of freshwater include rainwater and recovered condensate that is captured onsite.



Our suppliers are also implementing freshwater alternatives. In some cases, these require a change of process to allow water to be reused onsite. In other instances, suppliers have installed advanced systems to clean and recycle water to allow it to be used again. The suppliers within our Clean Water program reused on average 40 percent of wastewater in 2020.

Pursuing water stewardship

Water is a community resource. We take seriously our responsibility for both the quantity and the quality of water we return to the watershed. For our corporate locations, we estimate that 54 percent of the water we use is discharged into the watershed for use by others.³⁵ We ask our suppliers to do their part as well, by adhering to the high standards for water discharge outlined in the [Apple Supplier Code of Conduct](#). We aim to do more than comply with local regulations governing water discharge, whether at our facilities or our suppliers.

We're committed to preserving the health of each local watershed where we operate. Our Prineville, Oregon, data center was the first Apple-owned or operated site—and the first data center worldwide—to achieve certification under the Alliance for Water Stewardship (AWS), demonstrating our commitment to

context-based sustainable water use in the watershed. And also in Prineville, we partnered with the city to create an aquifer storage and recovery system, which will achieve commercial operation in 2021. This aquifer will hold up to 180 million gallons of water for use in peak months, reducing pressure on the local watershed.

Through the Clean Water program, we encourage performance that goes far beyond compliance. To date, 13 facilities have received certification of which 10 were Platinum status, the highest level of recognition by AWS. We are working with AWS and WWF China to manage the Water Stewardship China Network (WSCN). WSCN includes nearly 50 companies, local government, and civil society organizations collaborating to drive shared solutions at the basin-level and adoption of the AWS Standard in high-risk areas. In 2020, we worked with AWS and the Responsible Business Alliance (RBA) to establish the Information and Communications Technology (ICT) water stewardship working group. This group will promote the adoption of water stewardship practices throughout the industry, by developing training materials and providing opportunities for sharing knowledge and best practices.

Zero waste

We're working toward waste-free operations, where we rely on recyclable or reusable materials and send nothing to landfill.

This effort takes into account all materials, from kitchenware to construction materials. And we're working with our suppliers to eliminate waste from manufacturing, so that we leave no waste behind in the communities where our products are made. Countless innovations support this effort—it is our job to rethink how we do our work to achieve it. The goal to preserve resources is just one factor driving our efforts. This work also protects the most vulnerable communities disproportionately exposed to waste.

Rethinking waste at our corporate facilities

We're working to reduce and divert the waste created from our business, whether from our offices, data centers, or retail stores. This effort is part of our goal to send zero waste to landfill. Since our Zero Waste Program launched in 2018, our major U.S. campuses and global retail stores have been our focus.

In fiscal year 2020, we diverted more than 70 percent of our waste to recycling or composting rather than landfill.³⁶ And we are excited to announce our Prineville data center is the first Apple facility to have received TRUE certification—meaning more than 90 percent of its waste is sent to recycling or composting.³⁷ We achieved this by partnering with local businesses to divert our compost and plastics, by upgrading our infrastructure to allow for better waste separation, and by switching to reusable alternatives from single-use materials.

These high diversion rates helped limit the amount of waste sent to landfill to about 12,000 metric tons for our global operations.³⁸ This was a reduction compared to the previous year, resulting in part from the temporary closure of stores and offices due to the Covid-19 pandemic. However, our zero waste initiatives helped reduce waste at data centers and other locations that continued to operate.

Wherever possible, our aim is to minimize waste created in the first place. We're working with our key suppliers to transition to bulk, recyclable, or reusable packaging. At our Prineville data center, we switched to reusable crates, pallets, and racks to safely ship equipment. This decreased a key stream of waste coming to the site and reduced disposal costs as well.

The waste we can't avoid, we work to divert from landfill. This starts with building the right infrastructure and enhancing messaging to ensure items end up in the correct bin. We are rolling out consolidated bins for recycling, composting, and landfill, and improved signage to reduce contamination and increase recycling rates. The majority of our corporate sites and retail stores worldwide recycle paper, plastic, aluminum, and cardboard materials. And more than 450 of our offices and retail stores across North America participate in composting as well.

Yet our work continues to evolve as waste streams do. The health of employees, customers, and communities is our first priority; so we've supported our employees to wear all necessary personal protective equipment for the Covid-19 pandemic. We rapidly developed waste diversion options including a waste-to-energy solution for face masks and gloves used in our offices in the Santa Clara Valley and at more than 250 retail locations in the United States.³⁹

We maintain our commitment to the safe and responsible management of hazardous waste, both onsite and offsite. The Treatment, Storage, and Disposal facilities (TSDFs) we work with are audited to ensure that the waste is treated, recycled, or incinerated within the governing safety standards for health and the environment. Any facility that doesn't meet our requirements is replaced by another approved waste facility.



90%+

Our Prineville data center is the first Apple facility to receive TRUE certification—meaning more than 90 percent of its waste is sent to recycling or composting.

Working toward waste-free manufacturing

Our suppliers play an essential role in realizing our goals for zero waste. In 2015, we launched our supplier Zero Waste Program for our manufacturing partners. More than 165 participating facilities can access resources including guidance on waste diversion, tools to improve waste management, and in some cases, onsite support. Each effort contributes to our goal. Suppliers diverted over 400,000 metric tons of waste destined for landfills in 2020, bringing the total to 1.65 million metric tons diverted since the program's inception in 2015. This is the equivalent of eliminating more than 200,000 garbage trucks of waste sent to landfill.

Building on the progress made over the past several years, we continue to drive toward zero waste at our final assembly sites. We've recently engaged facilities assembling our Beats products, in addition to locations assembling iPhone, iPad, Mac, Apple Watch, AirPods, HomePod, and Apple TV. With this latest achievement, as of December 2020, 100 percent of established final assembly sites are now Zero Waste certified.⁴⁰ We've continued to expand the program further to include component manufacturing sites, with a particular focus on Apple Watch. Select Apple Watch components, including batteries and speakers, are already made at Zero Waste certified facilities.

Across all product lines, a total of 70 suppliers achieved certification by the end of 2020, representing a nearly 40 percent increase from 2019. This includes our Goertek AirPods assembly site in Vietnam—a first for Apple and for the country.



We've supported our suppliers in achieving these certifications, finding innovative solutions to reduce and recycle waste. We've broadened the use of Recyclable Protective Film (RPF)—which protects products during manufacturing—to Mac and iPad product lines in addition to iPhone. By ensuring that the film is recycled, we have been able to divert more than 4700 metric tons of waste from incineration. We've also expanded the use of a more efficient shrink-wrap to pilot AirPods, iPad, and iPhone assembly sites—reducing material used by 25 percent. By sharing this innovation with other industry leaders, including a major e-commerce company in China, we hope to help expand its impact beyond our own supply chain to other industries.

Above: By switching to recycled and reusable alternatives—including the Recyclable Protective Film pictured here—70 supplier sites have achieved Zero Waste certifications.

Promoting better buildings worldwide



Left: Our Marina Bay Sands retail store in Singapore features energy-efficient design and FSC-certified wood.

The buildings where we meet and create—retail stores, data centers, offices—are key to preserving the creativity and collaboration unique to Apple. Our shared spaces inspire innovation. They also reflect our values. It's our duty to examine the impact each of our buildings has on the environment.

Prioritizing this work starts with aligning our design and construction criteria to industry-recognized best practices for green buildings. These promote activities like water conservation, energy efficiency, and responsible material sourcing. To date, 80 of our sites are LEED (Leadership in Energy and Environment Design) or BREEAM (Building Research Establishment Environmental Assessment Method) certified. And we continue to increase that total as we support the construction of more than 15 million square feet of green building space around the world.

Our retail stores illustrate our dedication to the environment—from the early phases of design through the everyday use of a site. This approach informed the construction of our Marina Bay Sands retail space in Singapore. The glazing system on the glass façade capitalizes on daylight while limiting solar exposure. This reduces the electricity needed for both lighting and cooling, so the overall energy performance exceeds the ASHRAE 90.1 benchmark.⁴¹ The site also uses FSC-certified wood materials, and meets Singapore's Green Mark standard for environmental performance.

Our footprint extends to our corporate offices. Each project is unique, and varies to adapt to new locations and climates. For example, at our office in Hyderabad, India, outdoor temperatures can often reach above 100° Fahrenheit. To ensure the efficient use of resources and a comfortable environment for our employees, we customized the systems installed to adjust temperature and light. Daylight sensors near windows automatically dim or brighten based on the location of the sun. Best-in-class water-cooled chillers and HVAC systems optimize and reduce energy use. An onsite facility treats and reuses 80 percent of the location's wastewater for cooling, flushing, and irrigation, reducing overall water demand. All of these processes are closely monitored by a Building Management System, allowing our operations teams to continually optimize energy and resource efficiency.

The Covid-19 pandemic greatly impacted the way we manage our spaces. Over the past year, we've adjusted lighting and HVAC systems across our facilities on an ongoing basis, to adapt to reduced capacity and use patterns. As people return to our facilities, we're constantly monitoring occupancy levels to determine what additional ventilation and air filtration is needed to protect our employees. Safety remains our first priority, which has to be considered alongside our environmental goals.

Human-centric design cannot exist without considering how the built environment interacts with the world around us. We are constantly challenging ourselves to find new ways to build creative spaces that prioritize the environment we all share.

Smarter Chemistry



Goals and highlights

The well-being of our suppliers, employees, customers, and the planet is a priority for Apple, which is why we're committed to using safer materials to create safer products. This requires diligent work—to build a comprehensive picture of chemicals across our supply chain, to promote the use of better chemical management processes and safer chemical alternatives, and to innovate through design for smarter approaches to making our products.


Goals

Drive
comprehensive reporting
of chemicals used in
our supply chain to
make our products


Integrate
Smarter Chemistry
innovation into the way
we design and build
our products

Avoid
exposure to chemicals
that could be harmful
to human health or the
environment

Highlights


700+ parts and material
suppliers share chemical
ingredients with Apple


40,000
materials included in
our comprehensive
material library


100%
of supplier final
assembly sites
use safer
cleaners

A+ rating
received from the
Mind the Store
campaign

1400+ new materials
evaluated for safety


Safer Choice
Partner of the Year
award from
the EPA


600+ manufacturing partner facilities
shared how chemicals are used
and safely managed



Our approach

Apple continues to lead on smarter chemistry, pushing for advancements in new materials that not only can have an impact on human health and the environment, but also influence how our industry operates.

Our work begins with the substances in our products. By focusing on safety in our product designs, we strive to protect the people who design, make, use, and recycle our devices. Through close engagement with leading members of the scientific community, NGOs, and industry initiatives, we aim to drive a broader global shift toward materials that are safer to use and reuse.

To do this right means doing more than abiding by regulations governing harmful substances. It means applying higher standards and ensuring that those we work with comply with these standards. We've done this with our Regulated Substances Specification (RSS), which exceeds many regional regulatory requirements. As we drive innovation—promoting the development and use of safer materials—we seek to share what we learn with others in industry.

By holding ourselves and our suppliers to these standards, we create products that are safer across their entire life cycle. Materials with smarter chemistries can be more readily recycled and reused, enabling our efforts to create circular supply chains for our products. This impacts not only our design processes, but also our manufacturing processes—transitioning suppliers to safer alternatives protects workers and the world we live in. We also recognize that when safe materials are recycled within circular supply chains, it benefits communities that may otherwise be exposed to waste. And our work never stops. As we and our suppliers identify and design new materials and chemistries, we are committed to taking a leadership role in evaluating and pursuing safe and sustainable alternatives—and promoting this progress beyond our supply chain.

The pillars of our smarter chemistry strategy:



Mapping and engagement:

Engage our supply chain partners to build a comprehensive inventory of chemicals used to make our products and go beyond regulatory compliance.



Assessment:

Assess the potential human health and environmental risks of chemicals to evaluate compliance with our requirements and inform product design.



Innovation:

Exceed regional requirements by innovating safer alternatives and improving how we and our suppliers manage potential risks of chemicals.

Mapping and engagement

Our commitment to smarter chemistry starts with a deep understanding of the materials and chemistries used to make our products.

We work closely with our supplier partners to ensure that they understand and share our goals. This includes improving the safety of the chemicals we use in both our products and manufacturing processes. And as our products advance and suppliers evolve with us, we collect information on the chemical composition of the new materials our suppliers use.

The goal of this work is to ensure the safety of our products across their life cycle. We set out to understand the impact of chemicals at each milestone: from the manufacturing process, to the customer experience, to end-of-life—when materials in a product are recovered or recycled.

This is an area where we are leading. Few electronics manufacturers have gone to such an extent to understand the chemical composition of their products. Without this vital data, they are limited in their ability to address potential toxicological risks that may be associated with their manufacturing processes and the products they make. Given the highly sensitive nature of this information, it's often hard for those who make these materials to share with manufacturers further up in the supply chain. The information we gather—and the process we use—can guide others in our industry to improve the overall safety of electronic product design and manufacturing. Progress across our industry matters to us. Only by restricting the use of potentially harmful chemicals in products can we all safely build circular economies at scale.

Creating a comprehensive inventory of chemicals used in our products

The first step in this process is gathering the most detailed information possible to inform the actions we take. In 2016, we launched the Full Material Disclosure program to catalog and map each of the chemicals in our products. Material manufacturers deep in our supply chain play a critical role, reporting detailed—and often proprietary—data on their material compositions and manufacturing processes. This greater clarity on the chemical composition of the materials used in our products empowers our suppliers and us to make informed choices on materials selection—and drive change for future products across our industry.

Each supplier is required to report the materials used to manufacture Apple products. To streamline this requirement, we've created an advanced collection system to capture this data. Our suppliers reference our library of over 40,000 materials to provide the most detailed and accurate description of each material they report—and each material within this library has been validated against information from the material manufacturer. If a supplier is using a material not found in our library, we engage with both the supplier and the material manufacturer to confirm the material is genuine. In many cases, we'll already have information from the manufacturer on the material's makeup. In the cases where we do not, our experts then evaluate the material composition provided by the suppliers to make sure it aligns with expected properties for that class of material—an extra step to use the most accurate data possible.

Through these efforts we've been able to understand the detailed composition of our final products. We prioritize those that are key for biocompatibility—we have collected detailed chemical information for all materials that come under prolonged skin contact and require qualification from our biocompatibility team. For iPhone, iPad, and Mac products released in 2020, we collected detailed chemical information on more than 85 percent, on average, of product mass. For the 13-inch MacBook Pro (2020), we collected information on more than 90 percent of the product by mass. This includes tens of thousands of parts and assemblies.

This process represents a distinct innovation for smarter chemistry. While there is important work to be done in developing newer chemistries with reduced potential toxicological risks, there is also an opportunity that comes with developing a foundation of knowledge. By creating and maintaining a comprehensive database with accurate, precise, and current information on materials, we're able to inform the entire product life cycle—from the materials we select, to how we choose to manufacture and, eventually, recycle and reuse them. This benefits not just our products, but through driving access to information, contributes to the safety of the broader electronics industry.



40K

40,000 materials included in our comprehensive material library.

Mapping chemicals our suppliers use in manufacturing

We prioritize the health and safety of the people who make our products. Protecting those working within our supply chain means looking beyond our end products. When selecting chemicals and supporting better chemical management, we consider the full experience of the people building our products. Our Code and Standards set clear workplace safety requirements for our suppliers.

Our Chemical Safety Disclosure program advances disclosure around the chemistries used in manufacturing processes for our products. We work with participating suppliers to identify how chemicals are used and stored, as well as what mechanisms suppliers have in place to protect their employees. This enhanced access to information allows us to help our suppliers prioritize chemistries to substitute or manage through enhanced controls or safety procedures.

This effort captures information on process chemicals across our supply chain. More than 600 facilities have shared their chemical inventories. This data includes how the chemical is used, stored and the safety practices each site follows to protect employees. Through this process, we've identified 14,000 unique process chemicals and applications. And by collecting information on both the chemistries themselves and how they are used, we're able to remove chemistries that don't meet our health and safety standards. We also identify opportunities to create safer alternatives—contributing to a safer work environment for the millions of people who work with our suppliers.

Leading our suppliers on global requirements

The global regulatory and compliance landscape continually evolves. Our environmental approach, and the science we work from, mean our requirements may exceed those of local material safety regulations. When new regulatory benchmarks are put in place, we work directly with our suppliers to take steps to support the development of compliant programs at each of our suppliers' facilities. This process involves direct local-language training covering Regulated Substance Specification (RSS), our Full Material Disclosure and Chemical Safety Disclosure programs, and new compliance standards.

For example, in March, China released the national regulation around Volatile Organic Compounds (VOCs) as part of its "Blue Sky Initiative." We previously had requirements in place governing VOCs—which often appear in inks, coatings, adhesives, and cleaners—to track how our suppliers use them and restrict their use in select applications. With the launch of the new regulation, we provided additional support with trainings for more than 2000 supplier participants. And we've deployed a new VOC specification worldwide to help drive adoption of low-VOC alternatives. Through this specification, we're signaling to our suppliers around the world the importance of these improved alternatives.

Our supplier engagement efforts show clear results when new regulations are passed. The strong foundation of data provided by our disclosure programs plays a key role. It establishes a clear understanding of the chemistries across our supply chain that may be impacted by new regulations. And these efforts support the safety of our supply chain.

Comprehensive chemical mapping

Chemicals are used to make materials

Through our Full Material Disclosure (FMD) program, manufacturers share chemical ingredients used to make materials with Apple.

With FMD data, Apple evaluates the chemicals in materials against restrictions.



Chemicals are used at factories to make Apple products

Information on how chemicals are used, how they're stored, and how employees are protected is shared with Apple by suppliers through our Chemical Safety Disclosure (CSD) program.

With CSD data, Apple helps suppliers manage chemicals.



Apple products are used by consumer

FMD and CSD programs represent our ongoing efforts to evaluate materials against the strict requirements of our RSS, inform use of safer materials in manufacturing processes and our products, and promote safety within our supply chain.



■ Full Material Disclosure program
■ Chemical Safety Disclosure program

Assessment

With our products, we aim to make the best chemical and material choices possible to allow for the protection of human health and the environment. To evaluate compliance with our standards—including the RSS—we require our material suppliers to adhere to specifications that restrict the use of certain chemicals.

Apple subjects the materials in our products to rigorous evaluation and testing, and our board-certified toxicologists review these results and the chemical formulation of materials for safety.

The data we collect forms the foundation for key decisions in the design and manufacturing processes. Our assessment system helps ensure that only materials that meet our stringent requirements can be used in Apple products. And by establishing conservative restrictions on chemicals, testing for substances of concern, and conducting toxicological evaluations, Apple prioritizes the safety of our customers and those who make and recycle our products.

Setting and maintaining high standards for chemical safety

Building on our history of advancements in material safety, Apple published the Regulated Substances Specification (RSS) in 2002, setting standards for the chemicals in our products and manufacturing processes. To create the RSS, we worked from the guidance of experts, including toxicologists and dermatologists, and harmonized with international laws and directives regulating harmful chemicals—as well as our own policies.

The RSS continuously evolves to incorporate the latest scientific research and is regularly updated with new chemicals and scopes of restrictions. These changes expand chemical restrictions that, in many instances, already exceed local regulatory requirements. Most recently, we added a group of acrylate monomers, two sub-classes of PFAS chemicals, and broadened our restrictions on VOCs with a dedicated specification. This year, we also restricted additional process chemicals and expanded the scope of select existing restrictions. Each RSS update is reviewed by our Green Chemistry Advisory Board, made up of leading toxicologists, researchers, and academics. This independent review helps to ensure that we're leading the way to protect our customers and those who make or recycled our products.

We pay special attention to the materials that will be in prolonged skin contact and apply rigorous controls defined in our Restricted Chemicals for Prolonged Skin Contact Materials list. In particular, the restrictions focus on avoiding skin reactions most commonly reported across wearable products, like jewelry. We've updated our list of restricted chemicals to align with leading standards, recommendations from toxicologists and dermatologists, international laws and directives, and Apple policies. We vet supplier compliance, confirming that each material that comes into prolonged contact with skin is evaluated according to the latest standards.

All of our specifications are incorporated into contractual obligations for our suppliers, and each helps us maintain our high standards.



Our restrictions on potentially harmful chemicals are available online in the **Apple Regulated Substances Specification (PDF)** and in Apple's **Restricted Chemicals for Prolonged Skin Contact Materials (PDF)** list.

Assessing against and building upon our standards in the Environmental Testing Lab

Apple's Environmental Testing Lab performs chemical analyses to evaluate the safety of our products and materials. Our chemists test materials for safety and monitor compliance with the specifications. To meet this challenge, the Lab continues to grow, both in its mission and capacity. As we develop our Full Material Disclosure and Chemical Safety Disclosure programs, we're also expanding our testing facilities with new technologies to conduct chemical analysis. In addition to the work done at our lab, our teams review test reports from suppliers to evaluate substances against the RSS. In fiscal year 2020, we performed toxicological assessments on 1400 new materials to proactively evaluate and eliminate potentially harmful substances from our products. Each year, we conduct more than 100 chemical assessments on chemistries before they are used in our manufacturing processes.

The data we collect from our disclosure programs drives our assessments. We're able to generate comprehensive assessments, like GreenScreen®, a methodology we use to gauge the impact of chemicals on individual health and the environment based on 18 criteria. We also develop toxicological profiles for new chemicals, using both scientific literature and internal assessments to determine safe thresholds for use. These profiles detail the features of each chemical, providing data that allows us to evaluate the safety of the use of a substance in a particular product. And, in 2020, we expanded the scope of biocompatibility testing beyond individual materials to include modules and whole products. Through toxicological evaluations of materials within the product, we can assess potential indirect exposure to substances during use.



In [A Protocol for Prioritizing Chemicals of Concern in the Electronics Industry \(PDF\)](#), we share a framework to help actors across industries systematically evaluate chemistries.

Smarter chemistry innovation at every stage in the product life cycle

Material characterization testing

- When testing is carried out
- Testing impact

Material characterization testing informs the materials we select for use in our products.

RSS and biocompatibility testing

- When testing is carried out
- Testing impact

We test materials, parts, and final products to ensure biocompatibility and compliance with our RSS, so that our products are safe to make, use, and recycle.

Use of safer cleaners and degreasers

- When they're used

We help our suppliers to use safer cleaners and degreasers in manufacturing, protecting the workers in our supply chain.

Designing in environmentally preferred materials

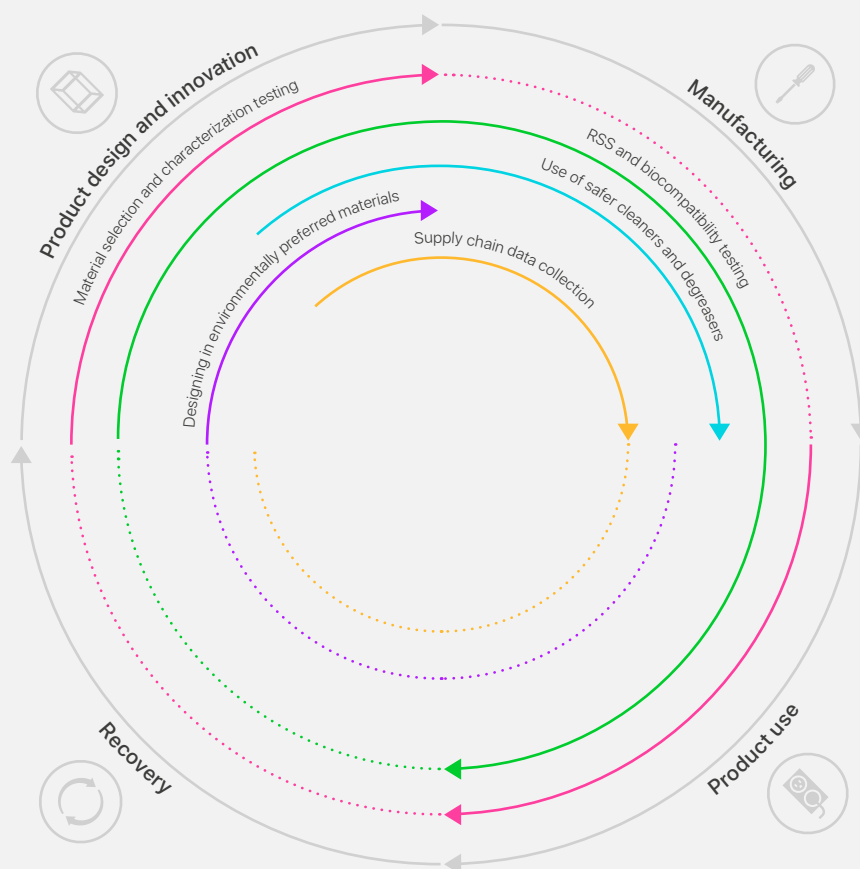
- When materials are used
- Impact of materials

We collaborate with our suppliers to create more environmentally preferred materials for use in products.

Supply chain data collection (FMD/CSD)

- When collection occurs
- Data collection impact

We collect data from our suppliers to inform how we design our products and processes to ensure safety and compliance with our requirements.



Innovation

What we learn about the safety of our materials enables us to make world-changing products while moving our industry forward to support the protection of health and the environment.

Our efforts to map and assess the chemicals within our supply chain ultimately fuel innovations. We use toxicology data at each point in the product life cycle, from design, to manufacturing, to end-of-life. This allows us to seek out and develop safer chemistries that have an impact on each phase—and contribute to continually improving the overall safety of our products and processes.

Designing and manufacturing with safer chemistries

The earlier we focus on chemical safety in the product life cycle, the more options we have along the way to innovate solutions to improve the substances used. We're able to approach smarter chemistry holistically, designing to our customers' needs, so that our products are safer for use, reuse, and recycling.

Choosing the materials we include in our products is one important element of this. We utilize our comprehensive chemical profiles of each material to inform design choices. Our toxicological assessments look at each chemical within a material, with a particular focus on those that come into prolonged contact with skin. As we select the materials to include in our products, we assess the process chemicals required with each design choice. We account for the storage and application of each of these materials, evaluating the exposure to potentially harmful substances. In 2020, we conducted reviews of more than 100 process chemicals prior to launch, so we could, where appropriate, adopt a safer alternative before production started. For example, we worked with a supplier to create a new low-VOC alternative cleaner that met our requirements.

And, finally, we consider what happens when our products reach their end-of-life. Potentially harmful substances can have an impact on the recyclability of a material. In some cases, chemistries that are harmless in small quantities become more concentrated through recycling cycles. This can lead to down-cycling—use of the material in lower-quality applications—or



could make the material unsafe for any use. This is true of the brominated flame retardants (BFRs) that have historically been used in plastics. The negative environmental effects of these chemicals outweigh the benefits they offer—and come at the expense of the recyclability of the material they're used in. Finding safer alternative flame retardants to replace BFRs means our products are both safer to use and more desirable for recycling.

By selecting materials with safer chemistries at the outset, we can improve their recoverability. This not only protects those who use our products, but also enables the reuse of key materials like plastic and aluminum. Our efforts to eliminate BFRs from the plastics we use in our products have improved the recyclability of our plastic components. And our detailed knowledge of the makeup of our high-quality aluminum adds to the benefits of collecting and reusing our aluminum scrap. By keeping potentially harmful chemicals out of our supply chain at the outset, we can be confident that the material we recover maintains our quality and performance standards.

Above: Our detailed knowledge of the makeup of our high-quality aluminum adds to the benefits of collecting and reusing our aluminum scrap.

Our 30-year history of smarter chemistry**PVC and phthalates**

Replaced with safer thermoplastic elastomers.⁴²
Both are still used by other companies in power cords and headphone cables.

**Brominated flame retardants (BFRs)**

Eliminated from thousands of parts such as enclosures, cables, circuit boards, and connectors in 2008. We use safer metal hydroxides and phosphorus compounds in their place.⁴²

**Mercury**

Eliminated from displays in 2009. We use energy-efficient, mercury-free LEDs and OLEDs instead of mercury-based fluorescent lamps in all our displays.

**Lead**

Phased out of display glass and solder in 2006.⁴²

**Arsenic**

Eliminated from display glass since 2008. Arsenic was traditionally used in glass.⁴²

**Beryllium**

Eliminated from all new product designs. Beryllium is found in copper alloys used to make connectors and springs.

**Innovating new smarter chemistries**

We've made safer materials a priority for our business—and used our procurement process to encourage our suppliers to follow suit. Our strict environmental standards governing potentially harmful substances in our products and processes have created a market for safer alternatives. And we're working with our suppliers to meet this demand, lending the expertise we've developed to create safer chemistries where none exist. We've done the critical work of phasing out chemistries that don't meet our standards; this next step of innovating smarter chemistries will change how the industry operates—and help fulfill our aim of working toward a world we want to live within, one free of harmful substances.

This has required collaboration. We've used our extensive research and analysis of materials to enable our suppliers to find safer alternatives. In cases where these alternatives have yet to be created, we lend our technical capabilities in material science as we work with our suppliers to develop entirely new chemistries. We subject these new alternatives to the same rigorous testing, evaluating the material against our high performance and safety standards.

These innovations to continually improve chemistries build on our history of successfully phasing out potentially harmful chemicals. Since the late 1990s, we have diligently identified and removed potentially harmful chemicals from our products, including phthalates, lead, mercury, and arsenic, among others.⁴² This has required developing alternatives—by creating safer compounds to replace potentially harmful chemistries or replacing components with alternatives that meet our safety standards. In some cases, we've redesigned our products to eliminate the need for parts that incorporate these materials.

Our work has received recognition. For the third year in a row, Apple received an A+ rating from Mind the Store, an external campaign that evaluates the largest retailers in North America on how they ensure the chemical safety of their products and packaging.

Encouraging safer alternatives at our suppliers' facilities

Our work on smarter chemistry is resource-intensive, from gathering the information, to assessing the data, to developing safer alternatives. Our suppliers often don't have the same capacity to subject their materials and processes to the level of due diligence required to assess their safety. For this reason, we support our suppliers by sharing the safer alternatives we've identified. And by promoting the use of substances that meet our standards.

An area where we are making an immediate impact is the application of cleaners and degreasers. These substances account for some of the highest use materials within our supply chain—and their chemistries have been the focus of considerable attention from regulators and environmental health and safety organizations.

Rather than reviewing our suppliers' inventories for potentially harmful chemistries, we've reversed the process—creating a list of cleaners and degreasers that have been determined to be safer for use with appropriate controls. We invested in the in-depth assessment and evaluation of these substances, incorporating leading guidance by GreenScreen® and the U.S. Environmental Protection Agency's Safer Choice program. In 2020, we evaluated 54 new cleaners of which 33 passed our assessment, bringing our total approved alternatives to cleaners and degreasers to 80. All of our final assembly sites now use these safer cleaners. We want to make the transition to safer alternatives accessible to others as well. That's why we have partnered with Clean Production Action, an advocacy nonprofit, to create clear criteria to assess the safety of cleaners in use across our industry.

These efforts have a direct impact—and the potential to change how our industry operates. More than 80,000 workers within our supply chain now use safer alternative cleaners and degreasers. In 2020, we were the first consumer electronics company to receive the EPA Safer Choice Partner of the Year Award in recognition for our work to scale the use of safer process chemicals, and protect those working in our supply chain.

We're also partnering with NGOs to make information about these materials readily available throughout the electronics industry. One effort is ChemFORWARD, a nonprofit collaboration of brands, retailers, suppliers, and environmental organizations that share high-quality, actionable chemical hazard data via a globally harmonized repository. With ChemFORWARD, we'll share our list of safe cleaners and degreasers and our evaluation framework with companies beyond our suppliers and even our industry.

We also worked with the Clean Electronics Production Network (CEPN)—a multi-stakeholder initiative working to address health and safety challenges in the electronics supply chain—to develop the Process Chemicals Data Collection (PCDC) Tool. The PCDC Tool is a free, standardized reporting tool that improves the process of collecting and managing data related to process chemicals usage in the electronics industry. Among other benefits, the tool creates an industry-wide format for consistent collection of information across the supply chain, and enables identification and quantification of chemical use, to help drive safer substitutions across the industry. All of the changes we make today contribute to our goal of protecting the planet we share.



1st

We are the first consumer electronics company to receive the EPA Safer Choice Partner of the Year Award for our work to scale use of safer cleaners.

Smarter chemistry through thoughtful cooperation



Envisioning a future with safer chemistries is a shared enterprise.

This year, when we updated our Regulated Substances Specification (RSS), we engaged the group of experts from our Green Chemistry Advisory Board to review our guidelines and provide direct feedback. Their input on the RSS was part of our ongoing engagement with the Board, a community of toxicologists and researchers Apple convened who share our vision of developing safer chemistries. We value the insight and experience of others engaging in the urgent work of keeping potentially harmful chemicals out of product materials and manufacturing processes. This cooperation fuels our innovations around smarter chemistry and developing alternatives to potentially harmful substances.

We've also joined with multiple industry initiatives to contribute to the broader global movement toward safer chemistries. This includes our engagement with Clean Production Action and now ChemFORWARD; we engage with both on their efforts around identifying harmful substances and developing safer alternatives for the electronics industry. We also helped found and sit on the board of the Clean Electronics Production Network (CEPN), a collection of stakeholders working to address complex health and safety challenges specific to the electronics supply chain. The Center for Sustainability Solutions at Green America, a leading environmental advocacy organization, facilitates this network of civil society organizations, academic researchers, worker rights advocates, and companies.

We're moving toward an industry-wide response to reducing potentially harmful substances in our products and processes to support our goals of ensuring a healthy workplace for those that make our products and promoting a circular economy. By eliminating chemicals that would negatively impact the ability for our products to be recycled and reused, we can achieve this goal.

"Apple demonstrates leadership not only by using safer alternative chemistries in its own supply chain, but also by collaborating to encourage and facilitate others to do the same. This is a key example of the systems transformation we see taking place to enable safer chemical use globally, across industries."

Stacy Glass
Executive Director, ChemFORWARD⁴³

Left: We plan to share the list of safe cleaners and degreasers used in our own supply chain with companies beyond our industry, through our partnership with ChemFORWARD.

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Appendix A

Greenhouse gas emissions

		Fiscal year				
		2020	2019	2018	2017	2016
Corporate facilities emissions (metric tons CO₂e)¹	Scope 1	47,430	52,730	57,440	47,050	34,370
	Natural gas, diesel, propane ²	39,340	40,910	42,840	36,210	27,000
	Fleet vehicles	4,270	6,950	11,110	8,300	7,370
	Process emissions ³	3,830	4,870	3,490	2,540	-
	Scope 2 (market-based)⁴	0	0	8,730	36,250	41,000
	Electricity	0	0	8,730	36,250	41,000
	Scope 3⁵	22,550,000	24,980,000	25,070,000	27,330,000	29,500,000
	Business travel ⁶	153,000	326,000	337,000	121,000	118,000
	Employee commute ⁷	134,000	195,000	183,000	172,000	186,000
Product life cycle emissions (metric tons CO₂e)⁸	Manufacturing (purchased goods and services)	16,100,000	18,900,000	18,500,000	21,100,000	22,800,000
	Product transportation (upstream and downstream)	1,800,000	1,400,000	1,300,000	1,200,000	1,200,000
	Product use (use of sold products)	4,300,000	4,100,000	4,700,000	4,700,000	4,900,000
	End of life treatment	60,000	60,000	50,000	40,000	300,000
Total comprehensive carbon footprint (metric tons CO₂e)⁹		22,600,000	25,100,000	25,200,000	27,500,000	29,500,000

1 Apple is carbon neutral for corporate emissions as of April 2020. Scope 1 emissions have been re-stated for fiscal years 2017–2018 based on improved data sources.

2 Starting in fiscal year 2016, scope 1 emissions capture diesel use in emergency back-up generators and propane gas use in corporate offices.

3 Emissions from R&D processes. Data reported beginning in 2017.

4 The building operations and cooling emissions (PUE) associated with our colocated data facilities are beyond our operational control and therefore these emissions are not included in our report.

5 In fiscal year 2017, we started calculating scope 3 emissions not listed above. In fiscal year 2020, these include electricity transmission and distribution losses (72,000 metric tons CO₂e) and life cycle emissions associated with renewable energy (26,000 metric tons CO₂e).

6 We are constantly revisiting our methodology to hold ourselves to high accountability standards. So in fiscal year 2018, we changed how we calculate emissions from business travel in order to better account for classes of service in air travel. As a result of this change, our scope 3 transportation emissions increased by 77 percent between 2017 and 2018. Without the methodology change, these emissions would have increased by 14 percent, which reflects the growth in our business.

7 We adjusted our methodology for fiscal year 2017 to take into account Apple's "At Home Advisors" program, where employees work remotely.

8 Because we're committed to accuracy and transparency, we're constantly refining our product life cycle assessment model and sources of data. For example, we recently obtained more accurate data for the amount of electricity used to manufacture a number of components like onboard electronics, bare boards and flexes, and various module assemblies. The net result was an increase in our 2019 carbon footprint. When using the same data and model as 2018, our carbon emissions in 2019 would have been about 23 million metric tons, or a decrease of 7 percent.

9 Due to rounding, our total comprehensive carbon footprint is not always the sum of the subtotals disclosed above.

Notes:

For data on previous years, please reference past Environmental Progress Reports, available at apple.com/environment.

Dash indicates data that are not available.

Due to rounding, totals may not be the sum of the subtotals.

Apple's life cycle assessment methodology

Apple uses five steps when conducting a product life cycle assessment (LCA):

- 1 To model the manufacturing phase, we use part-by-part measurements of the entire product along with data on part production. The measurements help us accurately determine the size and weight of the components and materials in the product, while data on manufacturing processes and yield loss during production allows us to account for the impact of manufacturing. The LCA includes accessories and packaging, as well as decreased emissions through Apple's Supplier Clean Energy Program. When calculating Apple's comprehensive carbon footprint, we also include units that are repaired and replaced through AppleCare.
- 2 To model customer use, we measure the power consumed by a product while it is running in a simulated scenario. Daily usage patterns are specific to each product and are a mixture of actual and modeled customer use data. For the purposes of our assessment, years of use, which are based on first owners, are modeled to be four years for macOS and tvOS devices and three years for iOS, iPadOS and watchOS devices. Most Apple products last longer and are often passed along, resold, or returned to Apple by the first owner for others to use. More information on our product energy use is provided in our Product Environmental Reports.
- 3 To model transportation, we use data collected on shipments of single products and multipack units by land, sea, and air. We account for transporting materials between manufacturing sites; transporting products from manufacturing sites to regional distribution hubs; transporting products from regional distribution hubs to individual customers; and transporting products from final customers to recycling facilities.

- 4 To model end of life, we use material composition data on our products and estimate the ratio of products that are sent to recycling or disposal. For products sent to recycling, we capture the initial processing by the recycler to prepare the product for recovery of electronic, metal, plastic, and glass material streams. Subsequent downstream recycling processes are not included, as these are considered stages of production and not end-of-life processing. For products sent to disposal, we capture the emissions associated with landfilling or incineration of each type of material.
- 5 After we collect data about manufacturing, use, transportation, and end of life, we combine it with detailed greenhouse gas emission data. This emission data is based on a combination of Apple-specific and industry-average datasets for material production, manufacturing processes, electricity generation, and transportation. Renewable energy used in the supply chain, initiated by suppliers independently or through the Apple Supplier Clean Energy Program, is also accounted for within the LCA model. Combining product-specific information with emission data in our LCA allows us to compile detailed results for greenhouse gas emissions as they relate to each product. The data and modeling approaches are checked for quality and accuracy by the Fraunhofer Institute in Germany.

There is inherent uncertainty in modeling carbon emissions due primarily to data limitations. For the top component contributors to Apple's carbon emissions, Apple addresses this uncertainty by developing detailed process-based environmental models with Apple-specific parameters. For the remaining elements of Apple's carbon footprint, we rely on industry average data and assumptions.

Energy

			Fiscal year				
Unit			2020	2019	2018	2017	2016
Corporate facilities energy use¹							
Electricity	Total	MWh	2,580,000	2,427,000	2,182,000	1,832,000	1,420,000
	U.S.	MWh	2,192,000	2,075,000	1,830,000	1,536,000	1,157,000
	International	MWh	389,000	351,000	351,000	296,000	262,000
Fuel	Total	MWh	439,170	462,680	494,460	420,650	325,480
	Natural gas	MWh	202,360	202,340	204,970	174,420	132,970
	Biogas	MWh	210,820	217,140	226,660	193,280	152,650
	Propane liquid	MWh	140	280	280	280	280
	Gasoline	MWh	14,910	23,950	37,740	31,310	29,200
	Diesel (other)	MWh	9,610	16,450	20,270	20,670	9,920
	Diesel (mobile combustion)	MWh	1,330	2,520	4,540	690	460
	Energy efficiency²						
Corporate facilities	Electricity savings³	MWh/year	244,690	208,640	113,200	69,980	55,280
	Fuel savings	mmBTU/year	297,090	277,120	254,140	245,340	222,850
Supplier facilities³	Electricity savings	MWh/year	1,101,440	943,890	798,930	473,510	159,110
	Fuel savings	mmBTU/year	752,678	25,120	25,120	5,620	–
Renewable electricity							
Corporate facilities	Renewable electricity use	MWh	2,580,000	2,430,000	2,170,000	1,770,000	1,350,000
	% Renewable electricity⁴	percent of total energy	100%	100%	99%	97%	96%
	Scope 2 emissions avoided⁵	metric tons CO₂e	948,000	899,000	690,000	589,000	541,000
Supplier facilities	Renewable energy capacity (operational)	GW	4.5	2.7	1.9	1.2	0.7
	Renewable energy capacity (committed)	GW	7.9	5.1	3.3	2.0	1.3
	Renewable energy use	MWh	11,400,000	5,700,000	4,100,000	1,900,000	200,000

¹ Natural gas use has been re-stated for fiscal years 2017–2019 based on corrected billing data.

² Because energy efficiency measures have lasting benefits, energy efficiency savings are calculated cumulatively since 2012. All efficiency measures are retired based on their effective useful lifetime as documented by the California Energy Commission. Due to the Covid-19 pandemic, corporate facilities energy use declined temporarily as we adjusted lighting and climate controls due to shutdowns and reduced occupancy. These savings are not included in the total savings from our energy efficiency program initiatives. We also recognize that energy use at our employees' homes likely increased during this period.

³ Prior to 2020, supplier energy savings are calculated on a calendar year basis. Beginning in 2020, supplier energy savings are calculated based on the fiscal year.

⁴ We calculate our progress toward 100 percent renewable energy on a calendar year basis. Beginning January 1, 2018, 100 percent of the electricity we use to power our global facilities is sourced from renewable energy.

⁵ We have adjusted previous years' avoided emissions to remove double counting biogas emissions.

Note: For data on previous years, please reference past Environmental Progress Reports, available at www.apple.com/environment.

Resources

KPI		Unit	Fiscal year				
			2020	2019	2018	2017	2016
Water							
Corporate facilities	Total ¹	million gallons	1,287	1,291	1,258	1,000	630
	Freshwater ²	million gallons	1,168	1,178	1,190	973	-
	Recycled water ³	million gallons	113	106	63	24	-
	Other alternative sources ⁴	million gallons	5	7	4	3	-
Supply chain	Freshwater saved	million gallons	10,800	9,300	7,600	5,100	3,800
Waste							
Corporate facilities⁵	Landfill diversion rate	percent	70%	66%	67%	71%	64%
	Landfilled (municipal solid waste)	pounds	25,826,550	38,317,120	32,372,890	31,595,200	21,618,850
	Recycled	pounds	63,812,300	72,338,130	66,380,630	68,509,300	28,198,560
	Composted	pounds	6,302,410	10,882,120	10,397,430	14,567,500	13,737,320
	Hazardous waste	pounds	4,053,770	6,096,600	6,277,800	3,342,700	2,287,320
	Waste to energy ⁶	pounds	786,250	1,129,080	1,105,140	645,000	-
Supply chain	Waste diverted from landfill ⁷	metric tons	400,000	322,000	375,000	351,000	200,000
Product packaging footprint	Total packaging	metric tons	226,000	189,000	187,000	169,000	165,000
	Recycled fiber	percent	59%	59%	58%	56%	49%
	Responsibly sourced virgin fiber ⁸	percent	35%	33%	32%	30%	30%
	Plastic	percent	6%	8%	10%	14%	21%

¹ Beginning in fiscal year 2017, our boundary expanded to include more than 150 million gallons of water used annually at distribution centers and co-located data centers. Water use has been re-stated for fiscal year 2019 based on improved data sources.

² We define freshwater as drinking-water quality, the majority of which comes from municipal sources and less than 5 percent comes from onsite groundwater sources.

³ Recycled water represents a key alternative water source. Our recycled water is sourced primarily from municipal treatment plants, with less than 5 percent from onsite treatment. Recycled water is primarily used for irrigation, make-up water in cooling, or toilet flushing.

⁴ Other alternative sources of water include rainwater and recovered condensate that is captured onsite. Water used for construction for activities like dust control is not included in this total, and represents 8 million gallons of water used in fiscal year 2020.

⁵ Beginning in fiscal year 2017, we're including waste from Apple's distribution centers. Total does not include construction and demolition waste nor electronic waste. We're refining our methodology for collecting this data and plan to include it in future years. We have also re-stated the total for 2018 without these categories of waste.

⁶ Beginning in fiscal year 2017, waste processed in "Waste to energy" facilities is reported separately.

⁷ Calculated on a calendar year basis.

⁸ Since 2017, all of the virgin wood fiber used in our packaging has come from responsible sources. Responsible sourcing of wood fiber is defined in Apple's Sustainable Fiber Specification. We consider wood fibers to include bamboo.

Note: Dash indicates data that are not available.

Normalizing factors^{*}

	2020	2019	2018	2017	2016
Revenue (in millions)	\$274,515	\$260,174	\$265,595	\$229,234	\$215,639
Number of employees	147,000	137,000	132,000	123,000	116,000

^{*} As reported in Apple's Form 10-K Annual Report filed with the SEC.

Appendix B

Supplier commitments

To date, 109 suppliers across 24 countries have committed to manufacturing Apple products with 100 percent renewable energy. For more information, please read our [Supplier Clean Energy Program Update](#).

II-VI Incorporated	Future Hi Tech Company Limited*	Qorvo
3M	General Interface Solution Ltd.*	Quadrant
Advanced International Multitech	Goertek	Quanta Computer
AKM Meadville Electronics	Goertek Microelectronics*	RRD
Alpha and Omega Semiconductor Limited*	Golden Arrow Printing Technology Co., LTD	RyPax Wing Fat Inc.
Amphenol	H.B. Fuller	SAES Getters S.p.A.*
Arkema	Hama Naka Shoukin Industry Company Limited*	SDK
ASE Technology Holding	Henkel	Seiko Advance Ltd.
Asia Vital Components Company Limited*	Hi-P International Limited*	Seoul Semiconductor*
ATL	Hon Hai Precision Industry	Shenghe Resource
AT&S	Huizhou Desay Battery Co., Ltd.*	Shenzhen Fortunta Technology Company Limited*
Auras Technology Co., Ltd.*	Hutchinson Technology, Inc.	Shenzhen Sunway Communication Co., Ltd.
Avary Holding	ITM Semiconductor Co., Ltd.*	Simplo Technology Company Limited*
Bemis Associates	Jabil	SK hynix
Biel Crystal (HK) Manufactory Ltd.	Jiangyin Kangrui Molding Technology Co., Ltd.*	Solvay
Blueway Electronic Co. Ltd.*	Jones Tech. Plc.*	Sony Semiconductor Solutions
BOE	Keiwa Incorporated	STMicroelectronics
Boyd Corporation	Kersen Science & Technology	Stora Enso Oyj*
BYD Electronic (International) Company Limited	Kunshan KIMD Co., Ltd	Sunwoda Electronic
Catcher Technology	LEALEA Enterprise Co., Ltd	Suzhou Anjie Technology
CCL Industries Incorporated*	Lens Technology	Suzhou Hengmingda Electronic Technology Co., Ltd.*
The Chemours Company*	Lingyi iTech	Taiyo Holdings Co., Ltd.
Cheng Loong Corporation*	Lishen	tesa SE
Compal Electronics	Luen Fung Group	Tianma Micro-Electronics (Hong Kong) Ltd.*
Compeq	Luxshare-ICT	Tong Tai Ying Technology Co., Ltd.*
Cooler Master Co., Ltd.*	Marian Inc.*	Trinseo S.A.*
Corning Incorporated	Mingxun*	Trio Metal Co., Ltd.*
COSMO	Murata Manufacturing Co., Ltd.*	TSMC
Cowell Optic Electronics Ltd.	MYS Group Co., Ltd.*	Tsujiden Co., Ltd.*
CymMetrik*	Nidec	Unisteel*
Daesang	Ningbo Magsound Industry Co., Ltd.	VARTA Microbattery GmbH*
Dexerials Corporation	Nitto Denko Corporation	Wistron
DSM Engineering Materials	Nordic Semiconductor ASA*	Ying Shing Enterprises Limited*
ECCO Leather	Pai Shing International Limited*	Yuto
Everlight Electronics Co., Ltd.*	Pegatron	Zhuohai CosMX Battery Co., Ltd.*
Fastway Creation	Phone In Mag-Electronics	
Flex Ltd.	Primax Group	

* Suppliers that have committed to 100 percent renewable energy since publication of the last Program Update in July 2020.

Appendix C

Facilities renewable energy supplement

Use of renewable energy at our facilities has been a central component of our emissions reduction strategy since 2011. We've learned a lot about how best to secure renewable energy, which has helped us educate suppliers and expand our renewable energy efforts into our supply chain. This appendix summarizes the types of renewable energy solutions we've deployed, and details how we implement renewable energy at our data centers—our largest energy loads.

How we procure renewable energy

Since launching our renewable energy program in 2011, we have implemented a number of solutions to procure renewable energy. Our strategy has evolved over time to create the most positive impact.

Ownership and PURPA:

In 2011, Apple's 100 percent equity ownership of our Maiden solar arrays was the first time a non-energy commercial company built its own utility-scale solar PV project. We used a 1978 federal law called the Public Utility Regulatory Policies Act (PURPA) to structure the project. We then applied this same structure to two more large solar PV and biogas fuel cell projects in North Carolina and two micro-hydro projects in Oregon. This was a landmark moment in corporate renewable energy development and led to an increased use of PURPA in these states.

Direct Access:

Since 2012, in California and Oregon, we've used a program called Direct Access to bypass the default electricity generation offered by the utilities servicing our data centers in those states. Instead, we contracted directly with independent power producers who could supply 100 percent renewable electricity.

After initially buying from existing, third-party owned projects, we're now procuring renewable energy from projects we created: The Solar Star II and Montague Wind projects deliver renewables to our Oregon data center, and the California Flats solar project to our data center, offices, and retail stores in California.

Green Rider:

In 2013, we opened a new data center in Reno, Nevada. With no PURPA or Direct Access options in Nevada, we worked directly with the local utility, NV Energy, to create a whole new regulatory structure. The "Nevada Green Rider" enables us to secure a long-term, fixed-price contract for renewable electricity from a new solar PV project built for us, but managed by the utility. We've used this partnership to create four solar projects totaling 320 megawatts.

Equity investment:

In 2014, we invested in two 20-megawatt solar PV projects in Sichuan, China, to support all of our in-country retail stores, corporate offices, and data storage facilities. This project represented the first time a commercial company created a new large-scale project in China for its own use. We've since replicated this model many times for Apple's supply chain.

Portfolio solutions:

In 2015 and 2016, we adapted to land scarcity constraints in Singapore and Japan by contracting for solar PV on 800 rooftops in Singapore and 300 in Japan. We adapted our approach in each country to fit local partnerships and regulatory structures: We signed a long-term agreement similar to a power purchase agreement in Singapore and made an equity investment in Japan. These projects offer us long-term flexibility as our load grows.

Renewable microgrid:

Since 2017, we've been powering Apple Park with 100 percent renewable energy—about 75 percent of which is generated onsite and managed by a microgrid. The onsite generation comes from 14 megawatts of rooftop solar PV and 4 megawatts of baseload biogas fuel cells. Any additional energy required is drawn by Direct Access from the California Flats solar project in nearby Monterey County. The microgrid system with battery storage manages the renewable energy generation and the building's energy use; optimizes demand management, load shifting, and frequency regulation services; and ensures uninterrupted energy reliability against local grid outages.

Facilities renewable energy projects

To reach 100 percent renewable electricity for Apple's own facilities, Apple has helped to create 1524 MW of renewable energy around the world, with another 32 MW in development (contracted)—for a total of 1557 megawatts. The projects listed to the right represent Apple-created renewable energy projects supporting Apple facilities' electricity use and contributing to cleaner grids around the world. Operational projects apply a mix of clean energy technology including wind (21.6 percent), solar (77.2 percent), micro-hydro (0.22 percent), and biogas fuel cells (0.92 percent).

This table represents all operational renewable energy projects that Apple has helped create.

Location	Renewable energy technology	Size (MW)
Australia	PV	0.5
Brazil	Wind	0.5
China mainland	PV	130
Denmark	PV	42
Denmark	Wind	17
France	PV	<0.1
India	PV	2
Israel	PV	5
Japan	PV	12
Mexico	Wind	0.8
Singapore	PV	35
South Africa	PV	0.1
Taiwan	PV	1
Turkey	PV	4
USA (AZ)	PV	54
USA (CA)	Biogas fuel cell	4
USA (CA)	PV	146
USA (IL)	Wind	112
USA (NC)	Biogas fuel cell	10
USA (NC)	PV	164
USA (NV)	PV	320
USA (OR)	Micro-hydro	3
USA (OR)	PV	125
USA (OR)	Wind	200
USA (TX)	PV	1
USA (VA)	PV	133.6
Total		1,524

Note: Data current as of February 2021 (operational).

Fiscal year 2020 energy and carbon footprint (corporate facilities)

The chart below provides a detailed breakdown of fiscal year 2020 energy use, which we used to calculate our greenhouse gas emissions.

Location	Scope 1			Scope 2		
	Total gas (mmBTU)	Renewable biogas (mmBTU)	Scope 1 emissions (metric tons CO ₂ e)	Electricity (million kWh)	Renewable electricity (million kWh)	Scope 2 emissions (metric tons CO ₂ e)
Corporate	825,121	218,703	319,32	689	689	0
Cupertino, CA	699,485	218,703	25,549	374	374	0
Elk Grove, CA	10,908	-	580	16	16	0
Austin, TX	11,076	-	588	60	60	0
Other USA	24,818	-	1,322	50	50	0
Cork, Ireland	15,732	-	836	15	15	0
Singapore	538	-	29	14	14	0
China	2,703	-	144	24	24	0
Other international	59,860	-	2,884	136	136	0
Data centers	501,459	500,642	71	1,700	1,700	0
Maiden, NC	500,642	500,642	27	358	358	0
Mesa, AZ	312	-	17	227	227	0
Newark, CA	-	-	-	99	99	0
Prineville, OR	505	-	27	279	279	0
Reno, NV	-	-	-	345	345	0
Viborg, Denmark	-	-	-	13	13	0
Colocation facilities (USA) ¹	N/A	N/A	N/A	293	293	0
Colocation facilities (International) ¹	N/A	N/A	N/A	80	80	0
Other international	N/A	N/A	N/A	7	7	0
Retail stores	83,230	0	4,421	191	191	0
Domestic (USA)	53,309	-	2,831	91	91	0
International	29,921	-	1,590	100	100	0
Total	1,409,809	719,344	36,424	2,580	2,580	0

Dash indicates data are not tracked.

N/A = Gas use at colocation facilities are considered outside of Apple's operational control.

¹ We've updated our fiscal year 2016 colocation facilities footprint to reflect more accurately Apple's operational boundaries. Per the WRI Greenhouse Gas Protocol, we've removed electricity use associated with colocation facility cooling and building operations. This energy use, however, is still covered by renewable energy.

A focus on data centers

We used over 1.7 billion kWh of electricity in fiscal year 2020 to power our data centers and colocation facilities around the world. We're proud that 100 percent of that electricity came from clean, renewable sources including solar, wind, biogas fuel cells, and low-impact hydro power. To cover our needs, we build our own renewable power projects and work with utilities to purchase clean energy from locally obtained resources.

We're staying at 100 percent even as Apple's data center presence continues to grow.

We now operate six data centers, and more are being developed. These data centers are spread across North America, Europe, and Asia. Each has unique design features that conserve energy and reflect the climate, as well as other aspects, of its location.

Solar + Biogas Fuel Cells**Maiden, North Carolina****100 percent renewable since opening June 2010**

Between 2011 and 2015, we installed 68 megawatts of Apple-created projects: two 20-megawatt solar projects, an 18-megawatt solar project, and 10 megawatts of biogas fuel cells. We then partnered with the local utility, Duke Energy, to help build five solar projects through its Green Source Rider program. These solar projects came online beginning in 2015 and were Duke Energy's first Green Source Rider projects to become operational. We worked with Duke Energy for several years to develop this green energy tariff option, which allowed Apple and Duke Energy to work together to develop new renewable energy projects. The five Green Source Rider projects have a combined capacity of 22 megawatts. In 2017, we made long-term commitments to five more solar projects

in North Carolina, for an additional 85 megawatts of clean energy. In fiscal year 2020, the Maiden data center was supported by projects that generated 358 million kWh of renewable energy, which is equivalent to the energy used by nearly 27,000 homes in North Carolina for a year. Use of renewable energy allowed us to avoid over 97,000 metric tons of CO₂e during the fiscal year.²

Energy efficiency measures we've implemented at our Maiden data centers include use of outside air cooling through a waterside economizer during night and cool-weather hours, which, along with water storage, allows the chillers to be idle 75 percent of the time.

Maiden, North Carolina: Grid mix vs. Apple-sourced renewable energy

Electricity use in fiscal year 2020: 358 million kWh

Default grid mix (North Carolina)	(%)	Apple actual renewable energy use	(%)
Coal	24	Apple's solar projects	72
Gas	32	Apple's biogas fuel cells	18
Nuclear	31	Duke Green Source Rider (100 percent solar)	10
Hydro	5		
Renewable	7		
Other	<1		

eGrid 2018

Actual fiscal year 2020 energy data

² Emissions avoided are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions. Carbon emissions equivalences are calculated using U.S. Energy Information Administration, 2019 data: https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

Wind + Solar + Low-Impact Hydro**Prineville, Oregon****100 percent renewable since opening May 2012**

To support our Prineville data center, we signed a 200-megawatt power purchase agreement for a new Oregon wind farm, the Montague Wind Power Facility, which entered commercial operation at the end of 2019. It's our largest project to date, producing over 562 million kWh of clean, renewable energy a year.

This is in addition to our power purchase agreement for the 56-megawatt Solar Star Oregon II project located just a few miles from our data center. This solar PV project, which came online and began supporting the data center in 2017, produces 141 million kWh of renewable energy per year. To strengthen the connection between Apple and these projects, we use Oregon's Direct Access program to supply the renewable energy from these projects directly to our data center.

Also supporting the data center are two micro-hydro projects that harness the power of water flowing through local irrigation canals that have been operating for over 60 years. These micro-hydro projects generate up to 7 to 10 million kWh of renewable energy a year. To supplement these projects, we executed a long-term purchase agreement for all environmental attributes from a 69-megawatt portfolio of eight solar projects in Oregon.

In fiscal year 2020, the Prineville data center was supported by projects that generated 279 million kWh of renewable energy, which is equivalent to the energy used by over 25,000 homes in Oregon for a year. Use of renewable energy allowed us to avoid over 197,000 metric tons of CO₂e during the fiscal year.³

Our Prineville data center takes advantage of the cool and dry climate by cooling its servers with outside air whenever possible. Indirect evaporative cooling is enabled when the outside air temperature gets too high to cool the servers with outside air alone.

Prineville, Oregon: Grid mix vs. Apple-sourced renewable energy**Electricity use in fiscal year 2020: 279 million kWh**

Default grid mix (Oregon)	(%)	Apple actual renewable energy use	(%)
Coal	2	Apple's micro-hydro projects	1
Gas	28	Oregon solar and wind (via Direct Access)	98
Hydro	56	Apple's solar projects	<1
Renewable	15		

eGrid 2018

Actual fiscal year 2020 energy data

³ Emissions avoided are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions. Carbon emissions equivalences are calculated using U.S. Energy Information Administration, 2019 data: https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

Solar**Reno, Nevada****100 percent renewable since opening December 2012**

Unlike competitive energy markets where we've located some of our data centers, the regulated electricity supply in Nevada did not offer a simple solution for us to create new renewable energy projects dedicated to our data center. So, in 2013, we created a partnership with the local utility, NV Energy, to develop the Fort Churchill Solar project. Apple designed, financed, and constructed the project, and NV Energy operates it and directs all the renewable energy it produces to our data center. The Fort Churchill Solar project uses a photovoltaic panel with curved mirrors that concentrate sunlight. The 20-megawatt array has an annual production capacity of over 43 million kWh.

To facilitate further renewable development in Nevada, Apple worked with NV Energy and the Nevada utility commission to create a green energy option open to all commercial customers, called the Nevada Green Rider, that does not require the customer to fund project development up-front. Thanks to this new option, in 2015 we announced our second Nevada solar project, the 50-megawatt Boulder Solar II project. This project came online in 2017, producing about 137 million kWh of renewable energy per year. We have used the Nevada Green Rider two more times, first for the 200-megawatt Techren Solar II project. Apple's largest solar project to date, it is estimated to produce over 540 million kWh per year and came online in late 2019.

Next was the 50-megawatt Turquoise Nevada project, which came online in late 2020. The project is estimated to produce 110 million kWh of renewable energy per year. In fiscal year 2020, the Reno data center was supported by projects that generated 345 million kWh of renewable energy, which is equivalent to the energy used by nearly 32,000 homes in Nevada for a year. Use of renewable energy allowed us to avoid more than 125,000 metric tons of CO₂e during the fiscal year.⁴

Like in Prineville, our Reno data center takes advantage of the mild climate by cooling its servers with outside air whenever possible. When the outside air is too warm to cool the servers alone, it draws from indirect evaporative cooling.

Reno, Nevada: Grid mix vs. Apple-sourced renewable energy

Electricity use in fiscal year 2020: 345 million kWh

Default grid mix (Nevada)	(%)	Apple actual renewable energy use	(%)
Coal	6	Apple's solar projects (via the Nevada Green Rider program)	100
Gas	67		
Hydro	5		
Renewable	22		

eGrid 2018

Actual fiscal year 2020 energy data

⁴ Emissions avoided are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions. Carbon emissions equivalences are calculated using U.S. Energy Information Administration, 2019 data: https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

Solar
Newark, California

100 percent renewable since January 2013

Our data center in Newark, California, is powered by 100 percent renewable energy. We hit this milestone in January 2013, when we began serving the data center with energy sourced primarily from California wind power.

We acquired this energy directly from the wholesale market through California’s Direct Access program.

In 2017, Apple’s 130-megawatt California Flats solar project in nearby Monterey County came online, and now we use Direct Access to supply power from that project directly to our data center as well as other Apple facilities in California.

In fiscal year 2020, the Newark data center was supported by projects that generated 99 million kWh of renewable energy, which is equivalent to the energy used by nearly 15,000 homes in California for a year. Use of renewable energy allowed us to avoid more than 7,000 metric tons of CO₂e during the fiscal year.⁵

Newark, California: Grid mix vs. Apple-sourced renewable energy
Electricity use in fiscal year 2020: 99 million kWh

Default grid mix (California)	(%)	Apple actual renewable energy use	(%)
Coal	<1	Bundled solar (via Direct Access)	100
Gas	46		
Nuclear	9		
Hydro	13		
Renewable	30		
Other	<1		

eGrid 2018

Actual fiscal year 2020 energy data

⁵ Emissions avoided are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions. Carbon emissions equivalences calculated using U.S. Energy Information Administration, 2019 data: www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

Solar**Mesa, Arizona****100 percent renewable since opening March 2017⁶**

Our global command data center in Mesa, Arizona, came online in 2016. To support this facility, we partnered with the local utility, the Salt River Project (SRP), to build the 50-megawatt Bonnybrooke solar project, which became operational in December 2016.

This project produces over 148 million kWh of clean, renewable energy a year, which roughly matches the energy used by the data center.

As the Mesa data center grew, it became apparent that we needed additional sources of renewable energy to maintain our 100 percent renewable electricity goal.

We began to explore onsite solar options at the data center and determined that we could provide valuable shaded parking that paid for itself through energy bill reductions while adding to our renewable energy portfolio. The resulting PV facility includes five elevated parking canopies and three ground mounted arrays, for a total generating capacity of 4.67 MW. The onsite PV system began commercial operation in February 2019 and is expected to generate 9,000 MWh per year.

In addition, we began working with SRP to develop a customer renewable energy program in 2017, resulting in their Sustainable Energy Initiative, launched in 2019, to provide a diverse mix of commercial electric customers with new renewable energy at an affordable price. Under this program, Apple has executed an agreement with SRP to purchase a portion of the output of their proposed 100 MW Central Line PV Facility, expected to begin operations in 2022.

In fiscal year 2020, the Mesa data center was supported by 227 million kWh of renewable energy, which is equivalent to the energy used by over 18,000 Arizona homes. Use of renewable energy allowed us to avoid more than 107,000 metric tons of CO₂e during the fiscal year.⁷

Mesa, Arizona: Grid mix vs. Apple-sourced renewable energy

Electricity use in fiscal year 2020: 227 million kWh

Default grid mix (Arizona)	(%)	Apple actual renewable energy use	(%)
Coal	28	Apple's solar project	100
Gas	33		
Nuclear	28		
Hydro	6		
Renewable	5		

eGrid 2018

Actual fiscal year 2020 energy data

⁶ Apple took operational control of the building in October 2015 and converted it to a data center that began servicing customers in March 2017: www.srpnet.com/about/stations/pdfx/2018irp.pdf.

⁷ Emissions avoided are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions. Carbon emissions equivalences are calculated using U.S. Energy Information Administration, 2019 data: https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

Solar
Denmark

100 percent renewable energy from its first day of operations

Our data center came online in 2020. The data center’s construction phase was powered with 100 percent wind energy from a local renewable energy retailer in Denmark. Our Northern Jutland PV project achieved commercial operation in late 2019, will meet all of the data center’s near-term energy needs, and at 42 megawatts, is one of Denmark’s largest solar power plants. Our second renewable project in Denmark, a 17 MW wind project, also came online in late 2020. We have secured long-term supply contracts with both Danish renewable projects, which will scale up as our data center loads grow.

The power system design at the data center is based on a resilient substation that eliminates the need for backup diesel generators. This reduces the carbon footprint of the data center and completely eliminates the need for large diesel fuel storage systems and diesel engine emissions that would impact the local community.

In fiscal year 2020, the Denmark data center sourced 13 million kWh of renewable energy, avoiding more than 5,000 metric tons of CO₂e.

Denmark: Grid mix vs. Apple-sourced renewable energy
Electricity use in fiscal year 2020: 13 million kWh

Default grid mix (Denmark)	(%)	Apple actual renewable energy use	(%)
Coal	11	Apple's solar project	90
Gas	6	Retailer sourced renewables	10
Renewable	76		
Other	7		

<https://www.iea.org/data-and-statistics?country=DENMARK&fuel=Energy%20supply&indicator=ElecGenByFuel>

Actual fiscal year 2020 energy data

China

We have two new data centers in development in China, one in Guizhou Province, the other in Inner Mongolia. Both data centers are scheduled to come online in 2021, and we have lined up renewable projects in China to supply the data centers with 100 percent renewable energy.

Air quality

Data centers often rely on diesel-powered emergency generators to provide a backup source of power in case of electrical outages. Emergency generators must be exercised periodically to ensure their operational reliability. These preventative maintenance activities as well as emergency operations during power outages consume diesel fuel and result in air pollutant emissions. As a source of air pollutant emissions, the emergency generators at Apple's data centers are operated under air permits issued by regulatory agencies. These permits require monitoring, testing, inspection, and reporting at regular intervals.

We've voluntarily installed emissions control systems on our emergency generators to reduce emissions of nitrogen oxides and particulates. And we're standardizing our approach to preventative maintenance activities to minimize annual testing hours.

To further reduce air emissions at our data centers, we're finding innovative ways to minimize the use of diesel-powered emergency generators. In Denmark, we've deployed a new substation design, in conjunction with the local utility, with the highest level of resiliency and automation. It will allow Apple to eliminate emergency generators altogether—in addition to eliminating air emissions associated with diesel fuel delivery. At our data centers in Nevada, North Carolina, and Oregon, we have added a second transmission line, which increases the reliability of the power supply and, therefore, minimizes the need for emergency operation of the generators.

Our colocation facilities

The majority of our online services are provided by our own data centers; however, we also use third-party colocation facilities for additional data center capacity. While we don't own these shared facilities and use only a portion of their total capacity, we include our portion of their energy use in our renewable energy goals.

Starting January 2018, 100 percent of our power for colocation facilities was matched with renewable energy generated within the same state or NERC region for facilities in the United States, or within the same country or regional grid for those around the world. As our loads grow over time, we'll continue working with our colocation suppliers to match 100 percent of our energy use with renewables.

Furthermore, we worked with one of our main suppliers of colocation services to help it develop the capability to provide renewable energy solutions to its customers. This partnership advances Apple's renewable energy program and those of other companies that use this colocation provider.

Energy use and emissions at Apple's colocation facilities

	Total energy use (kWh)	Renewable energy (kWh)	Default utility emissions⁸ (metric tons CO₂e)	Apple's emissions – including renewable energy⁹ (metric tons CO₂e)	Percent renewable energy¹⁰
FY2011	42,500	0	10	10	0%
FY2012	38,552,300	1,471,680	17,200	16,500	4%
FY2013	79,462,900	46,966,900	31,800	14,500	59%
FY2014	108,659,700	88,553,400	44,300	11,000	81%
FY2015	142,615,000	121,086,100	60,500	12,700	85%
FY2016¹¹	145,520,900	143,083,200	66,300	1,600	98%
FY2017	289,195,800	286,378,100	125,600	1,500	99%
FY2018	327,663,800	326,959,700	146,600	400	99.8%
FY2019	339,047,649	339,047,649	146,400	0	100%
FY2020	372,901,398	372,901,398	153,459	0	100%

Third-party computing

Beyond the use of our own data centers and colocation facilities, we also use third-party services to support some of our on-demand cloud computing and storage services. We are requiring these suppliers to adopt a 100 percent renewable energy strategy for their Apple energy use, and we continue to work with our suppliers to refine estimates for the carbon emissions associated with their services.

⁸ We calculate "default utility emissions" to provide baseline emissions of what our carbon footprint would have been without the use of renewable energy. This allows us to demonstrate the savings resulting from our renewable energy program.

⁹ Apple's greenhouse gas emissions are calculated using the World Resources Institute Greenhouse Gas Protocol methodology for calculating market-based emissions.

¹⁰ We calculate our progress toward our 100 percent renewable energy goal on a calendar year basis, while the numbers reported in this table are based on fiscal year. Beginning January 1, 2018, all of the electricity use at our colocation facilities is from 100 percent renewable energy.

¹¹ Over the past few years, we have been installing submeters in colocation facilities to better track electricity usage. Beginning in FY2016, we started reporting this submetered electricity usage. Prior to fiscal year 2016, reported electricity usage was conservatively estimated based on maximum contract capacity quantities. We've updated our fiscal year 2016 colocation facilities footprint to reflect more accurately Apple's operational boundaries. Per the WRI Greenhouse Gas Protocol, we've removed from our electricity usage and scope 2 calculations those emissions associated with colocation facility cooling and building operations.

Appendix D

Assurance and review statements



Review Statement

Comprehensive Fiber Footprint

Fraunhofer IZM reviewed Apple's comprehensive fiber footprint data related to corporate fiber usage from products, corporate, and retail operations in fiscal year 2020.

1 Summary

This review checks transparency of data and calculations, appropriateness of supporting product and packaging related data and assumptions, and overall plausibility of the calculated corporate annual fiber footprint of Apple products shipped in fiscal year 2020 and of corporate and retail operations in the same period.

As there is no standardised method available for calculating a product or company fiber footprint Apple defined a methodology for internal use. The scope of the Fiber Footprint includes Apple's corporate fiber usage from products, corporate, and retail operations. The fiber footprint tracks the total amount of wood, bamboo, and bagasse fiber, both virgin and recycled, that Apple uses in packaging, and other paper products. Apple obtains and analyses supplier-specific data for each product line and sums up these figures for the entire company using sell-in numbers. For some products, a representative supplier is chosen to calculate the product-specific packaging. The output is a total fiber footprint.

The review of the corporate annual fiber footprint has considered the following criteria:

- The system boundaries are clearly defined
- Assumptions and estimations made are appropriate
- Use of supplier data is appropriate and methodologies used are adequately disclosed

Data reported by Apple is as follows:



2020	Total Fiber	Virgin Fiber	Recycled Fiber
Packaging Fiber	213,000	78,500	134,500
Retail Bag Fiber	1,000	500	1,000
Corporate Fiber	1,000	500	500
Total	215,500	79,500	136,000
	[metric tons fiber]	[metric tons fiber]	[metric tons fiber]

All results and figures reviewed for fiscal year 2020 are plausible.

2 Reviewed Data and Findings

As part of this review Apple disclosed following data to Fraunhofer IZM:

- Calculation methodology for the corporate fiber footprint
- Sales data for FY2020, including accessories
- Aggregated fiber data for all products and the total corporate fiber footprint for the fiscal year 2020

The methodology paper (Fiber Footprint at Apple - Methodology Description - V1.1) provided by Apple and reviewed in 2017, is considered a sound and appropriate guidance for determining the company fiber footprint. Where appropriate, this approach follows methodological principles applied for state-of-the-art Life Cycle Assessments.

This review comprises a check of packaging fiber data for selected products (iPhone 11, iPhone 11 Pro Max, iPad 2019).

Plausibility of some data has been questioned and discussed with Apple in detail. No corrections were needed. This review was done remotely. All questions raised in the course of the review were answered by Apple.



Based on the process and procedures conducted, there is no evidence that the corporate fiber footprint is not materially correct and is not a fair representation of fiber data and information.

Berlin, March 23, 2021

A handwritten signature in black ink, appearing to read "M. Proske".

- Marina Proske -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

A handwritten signature in black ink, appearing to read "K. Schischke".

- Karsten Schischke -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

Reviewer Credentials and Qualification

Marina Proske: Experience and background in the field of Life Cycle Assessments include

- Life Cycle Assessment course and exam as part of the Environmental Engineering studies (Dipl.-Ing. Technischer Umweltschutz, Technische Universität Berlin, 2009)
- Critical Reviews of LCA studies incl. water, fiber and plastic footprints since 2012 for 2 industry clients and of the EPEAT Environmental Benefits Calculator
- Life Cycle Assessment of modular smartphones (Fairphone 2, Fairphone 3)
- Studies on the environmental assessment and carbon footprint of ICT
- Studies on material and lifetime aspects within the MEErP methodology

Further updated information at: <https://de.linkedin.com/in/marina-proske-74347164/en>

Karsten Schischke: Experience and background in the field of Life Cycle Assessments include

- Life Cycle Assessment course and exam as part of the Environmental Engineering studies (Dipl.-Ing. Technischer Umweltschutz, Technische Universität Berlin, 1999)
- More than 100 Critical Reviews of LCA studies since 2005 (batteries, displays, mobile devices, networked ICT equipment, home automation devices, servers, desktop computers) for 5 different industry clients and of the EPEAT Environmental Benefits Calculator
- Coordination of and contribution to compilation of more than 100 ELCD datasets (available at www.lca2go.eu; product groups: hard disk drives, semiconductors, printed circuit boards, photovoltaics)
- Environmental Lifecycle Assessments following the MEEuP / MEErP methodology in several Ecodesign Product Group Studies under the European Ecodesign Directive since 2007 (external power supplies, complex set-top boxes, machine tools, welding equipment)
- Various environmental gate-to-gate assessments in research projects since 2000 (wafer bumping, printed circuit board manufacturing)

Further updated information at: www.linkedin.com/in/karsten-schischke

INDEPENDENT ASSURANCE STATEMENT

To: The Stakeholders of Apple Inc.

Introduction and objectives of work

Apex Companies, LLC (Apex) was engaged by Apple Inc. (Apple) to conduct an independent assurance of select environmental data reported in its 2020 environmental report (the Report). This assurance statement applies to the related information included within the scope of work described below. The intended users of the assurance statement are the stakeholders of Apple. The overall aim of this process is to provide assurance to Apple's stakeholders on the accuracy, reliability and objectivity of Subject Matter included in the Report.

This information and its presentation in the Report are the sole responsibility of the management of Apple. Apex was not involved in the collection of the information or the drafting of the Report.

Scope of Work

Apple requested Apex to include in its independent review the following (Subject Matter):

- Assurance of select environmental data and information included in the Report for the fiscal year 2020 reporting period (September 29, 2019 through September 26, 2020), specifically, in accordance with Apple's definitions and World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol:
 - Energy: Direct (Million Therms) and Indirect (Million kilowatt hours (mWh))
 - Renewable Energy (mWh)
 - Water Withdrawal (Million Gallons)
 - Greenhouse Gas (GHG) Emissions: Direct Scope 1 emissions by weight, Indirect Scope 2 emissions by weight, Indirect Scope 3 emissions by weight (Employee Commute and Business Travel) (Metric Tonnes of Carbon Dioxide equivalent)
 - Waste Quantities and Disposition (Metric Tonnes)
 - Paper Quantities (Metric Tonnes)
 - Appropriateness and robustness of underlying reporting systems and processes, used to collect, analyze, and review the environmental information reported

Excluded from the scope of our work is any assurance of information relating to:

- Text or other written statements associated with the Report
- Activities outside the defined assurance period

Assessment Standards

Our work was conducted against Apex's standard procedures and guidelines for external Verification of Sustainability Reports, based on current best practice in independent assurance. Apex procedures are based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after Dec. 15, 2015), issued by the International Auditing and Assurance Standards Board.

Methodology

Apex undertook the following activities:

1. Virtual remote site visits to Apple facilities in Chengdu, China; Shenzhen, China; and Viborg, Denmark;
2. Remote visit/meetings with personnel from Apple corporate offices in Cupertino, California;
3. Interviews with relevant personnel of Apple;
4. Review of internal and external documentary evidence produced by Apple;

5. Audit of environmental performance data presented in the Report, including a detailed review of a sample of data against source data; and
6. Review of Apple information systems for collection, aggregation, analysis and internal verification and review of environmental data.

The work was planned and carried out to provide reasonable assurance for all indicators and we believe it provides an appropriate basis for our conclusions.

Our Findings

Apex verified the following indicators for Apple's Fiscal Year 2020 reporting period (September 29, 2019 through September 26, 2020):

Parameter	Quantity	Units	Boundary/ Protocol
Natural Gas Consumption	14.0	Million Therms	Worldwide occupied properties / Apple Internal Protocol
Electricity Consumption	2,580	Million kilowatt hours (mkWh)	Worldwide occupied properties / Apple Internal Protocol
Renewable Energy	2,580	Million kilowatt hours (mkWh)	Worldwide / Invoiced quantities & self-generated
Scope 1 GHG Emissions	47,430	metric tons of carbon dioxide equivalent (tCO ₂ e)	Worldwide occupied properties / WRI/WBCSD GHG Protocol
Scope 2 GHG Emissions (Location-Based)	890,189	tCO ₂ e	Worldwide occupied properties / WRI/WBCSD GHG Protocol
Scope 2 GHG Emissions (Market-Based)	0	tCO ₂ e	Worldwide occupied properties / WRI/WBCSD GHG Protocol
Scope 3 GHG Emissions – Business Travel	153,000	tCO ₂ e	Worldwide occupied properties / WRI/WBCSD GHG Protocol Value Chain (Scope 3)
Scope 3 GHG Emissions – Employee Commute	134,000	tCO ₂ e	Worldwide occupied properties / WRI/WBCSD GHG Protocol Value Chain (Scope 3)
Water Withdrawal	1,287	Million gallons	Worldwide occupied properties / Apple Internal Protocol
Trash disposed in Landfill	11,715	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol
Hazardous Waste (Regulated waste)	1,839	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol
Recycled Material (Removal by recycling contractor)	28,907	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol
Composted Material	2,859	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol
Waste to Energy	357	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol
Paper	1,048	Metric tonnes	Worldwide occupied properties / Apple Internal Protocol

Our Conclusion

Based on the assurance process and procedures conducted regarding the Subject Matter, we conclude that:

- The Energy, Water, Waste, Paper, and Scope 1, 2 & 3 GHG Emissions assertions shown above are materially correct and are a fair representation of the data and information; and
- Apple has established appropriate systems for the collection, aggregation and analysis of relevant environmental information, and has implemented underlying internal assurance practices that provide a reasonable degree of confidence that such information is complete and accurate.

Statement of independence, integrity and competence

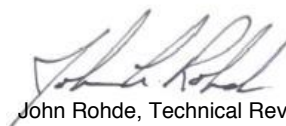
Apex has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

No member of the assurance team has a business relationship with Apple, its Directors or Managers beyond that required of this assignment. We have conducted this verification independently, and there has been no conflict of interest.

The assurance team has extensive experience in conducting verification and assurance over environmental, social, ethical and health and safety information, systems and processes, has over 30 years combined experience in this field and an excellent understanding of Apex standard methodology for the Assurance of Sustainability Reports.

Attestation:

Trevor A. Donaghu, Lead Assuror
Program Manager
Sustainability and Climate Change Services



John Rohde, Technical Reviewer
Practice Lead
Sustainability and Climate Change Services

March 8, 2021



Review Statement

Corporate Packaging Plastic Footprint

Fraunhofer IZM reviewed Apple's corporate packaging plastic footprint data related to corporate packaging plastic usage from products and retail operations in fiscal year 2020.

1 Summary

This review checks transparency of data and calculations, appropriateness of supporting product and packaging related data and assumptions, and overall plausibility of the calculated corporate annual packaging plastic footprint of Apple products shipped in fiscal year 2020 and of retail operations in the same period.

As there is no standardised method available for calculating a packaging plastic footprint Apple defined a methodology for internal use. The scope of the plastic packaging footprint includes Apple's corporate packaging plastic usage from products and retail operations. The packaging plastic footprint tracks the total amount of plastic, adhesives, and ink, that Apple uses in packaging. Apple obtains and analyses supplier-specific data for each product line and sums up these figures for the entire company using sell-in numbers. For some products, a representative supplier is chosen to calculate the product-specific packaging. The output is a total packaging plastic footprint.

The review of the corporate annual packaging plastic footprint has considered the following criteria:

- The system boundaries are clearly defined
- Assumptions and estimations made are appropriate
- Use of supplier data is appropriate and methodologies used are adequately disclosed

Data reported by Apple is as follows:



	Total Plastic	Packaging Plastic	Retail Bags
2020	13,000	12,800	200
	[metric tons plastic]	[metric tons plastic]	[metric tons plastic]

All results and figures reviewed for fiscal year 2020 are plausible.

2 Reviewed Data and Findings

As part of this review Apple disclosed following data to Fraunhofer IZM:

- Calculation methodology for the corporate packaging plastic footprint
- Sales data for FY2020, including accessories
- Selected product and supplier specific data on packaging materials and production yields
- Aggregated packaging plastic data for all products and the total corporate packaging plastic footprint for the fiscal year 2020

The methodology paper provided by Apple (Packaging Plastic Footprint at Apple – Methodology Description – V1.0) in 2018, is considered a sound and appropriate guidance for determining the company packaging plastic. Where appropriate, this approach follows methodological principles applied for state-of-the-art Life Cycle Assessments.

This review comprises a check of packaging plastic data for selected products (iPhone 11, iPhone 11 Pro Max, and iPad 2019).

Plausibility of some data has been questioned and discussed with Apple in detail. No corrections were needed.

This review was done remotely. All questions raised in the course of the review were answered by Apple and related evidence was provided where needed.



Based on the process and procedures conducted, there is no evidence that the corporate packaging plastic footprint is not materially correct and is not a fair representation of plastic data and information. The excellent analysis meets the principles of good scientific practice.

Berlin, March 23, 2021

A handwritten signature in black ink, appearing to read "M. Proske".

- Marina Proske -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

A handwritten signature in black ink, appearing to read "K. Schischke".

- Karsten Schischke -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

Reviewer Credentials and Qualification

Marina Proske: Experience and background in the field of Life Cycle Assessments include

- Life Cycle Assessment course and exam as part of the Environmental Engineering studies (Dipl.-Ing. Technischer Umweltschutz, Technische Universität Berlin, 2009)
- Critical Reviews of LCA studies incl. water, fiber and plastic footprints since 2012 for 2 industry clients and of the EPEAT Environmental Benefits Calculator
- Life Cycle Assessment of modular smartphones (Fairphone 2, Fairphone 3)
- Studies on the environmental assessment and carbon footprint of ICT
- Studies on material and lifetime aspects within the MEErP methodology

Further updated information at: <https://de.linkedin.com/in/marina-proske-74347164/en>

Karsten Schischke: Experience and background in the field of Life Cycle Assessments include

- Life Cycle Assessment course and exam as part of the Environmental Engineering studies (Dipl.-Ing. Technischer Umweltschutz, Technische Universität Berlin, 1999)
- More than 100 Critical Reviews of LCA studies since 2005 (batteries, displays, mobile devices, networked ICT equipment, home automation devices, servers, desktop computers) for 5 different industry clients and of the EPEAT Environmental Benefits Calculator
- Coordination of and contribution to compilation of more than 100 ELCD datasets (available at www.lca2go.eu; product groups: hard disk drives, semiconductors, printed circuit boards, photovoltaics)
- Environmental Lifecycle Assessments following the MEEuP / MEErP methodology in several Ecodesign Product Group Studies under the European Ecodesign Directive since 2007 (external power supplies, complex set-top boxes, machine tools, welding equipment)
- Various environmental gate-to-gate assessments in research projects since 2000 (wafer bumping, printed circuit board manufacturing)

Further updated information at: www.linkedin.com/in/karsten-schischke

INDEPENDENT ASSURANCE STATEMENT

To: The Stakeholders of Apple Inc.

Introduction and objectives of work

Apex Companies, LLC (Apex) was engaged by Apple Inc. (Apple) to conduct an independent assurance of its Supplier Clean Energy Program data reported in its 2020 environmental report (the Report). This assurance statement applies to the related information included within the scope of work described below. The intended users of the assurance statement are the stakeholders of Apple. The overall aim of this process is to provide assurance to Apple's stakeholders on the accuracy, reliability and objectivity of select information included in the Report.

This information and its presentation in the Report are the sole responsibility of the management of Apple. Apex was not involved in the collection of the information or the drafting of the Report.

Scope of Work

Apple requested Apex to include in its independent review the following:

- Methodology for tracking and verifying supplier clean energy contributions, including the Energy Survey, Renewable Energy Agreement, and other forms of supporting documentation provided by suppliers where available;
- Assurance of Clean Energy Program data and information for the fiscal year 2020 reporting period (September 29, 2019 through September 26, 2020), specifically, in accordance with Apple's definitions:
 - Energy: Reported megawatt-hours (MWh) of clean energy attributed to the Clean Energy Program for suppliers;
 - Avoided Greenhouse Gas (GHG) emissions associated with clean energy attributed to the Clean Energy Program;
 - Operational Capacity in megawatts (MWac) of clean energy in support of Apple manufacturing as a part of Apple's Supplier Clean Energy Program;
 - Appropriateness and robustness of underlying reporting systems and processes, used to collect, analyze, and review the information reported;

Excluded from the scope of our work is any assurance of information relating to:

- Text or other written statements associated with the Report
- Activities outside the defined assurance period

Assessment Standards

Our work was conducted against Apex's standard procedures and guidelines for external Verification of Sustainability Reports, based on current best practice in independent assurance. Apex procedures are based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after Dec. 15, 2015), issued by the International Auditing and Assurance Standards Board.

Methodology

Apex undertook the following activities:

1. Remote virtual visit to Apple corporate offices in Cupertino, California;
2. Interviews with relevant personnel of Apple;
3. Review of internal and external documentary evidence produced by Apple;
4. Audit of reported data, including a detailed review of a sample of data against source data; and
5. Review of Apple information systems for collection, aggregation, analysis and internal verification and review of environmental data.

The work was planned and carried out to provide reasonable assurance for all indicators and we believe it provides an appropriate basis for our conclusions.

Our Findings

Apex verified the following indicators for Apple's Fiscal Year 2020 reporting period (September 29, 2019 through September 26, 2020):

Parameter	Quantity	Units	Boundary/ Protocol
Clean Energy Use	11.4	Million megawatt hours (mMWh)	Apple suppliers / Apple Internal Protocol
Avoided GHG Emissions	8.6	Million metric tons of carbon dioxide equivalent (mMtCO ₂ e)	Apple suppliers / Apple Internal Protocol
Operational Capacity	4,531	Megawatts (MWac)	Apple suppliers / Apple Internal Protocol

Our Conclusion

Based on the assurance process and procedures conducted, we conclude that:

- The Clean Energy Use, Avoided GHG Emissions, and Operational Capacity assertions shown above are materially correct and are a fair representation of the data and information; and
- Apple has established appropriate systems for the collection, aggregation and analysis of relevant environmental information, and has implemented underlying internal assurance practices that provide a reasonable degree of confidence that such information is complete and accurate.

Statement of independence, integrity and competence

Apex has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

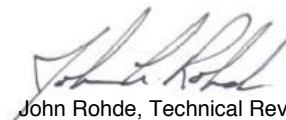
No member of the assurance team has a business relationship with Apple, its Directors or Managers beyond that required of this assignment. We have conducted this verification independently, and there has been no conflict of interest.

The assurance team has extensive experience in conducting verification and assurance over environmental, social, ethical and health and safety information, systems and processes, has over 30 years combined experience in this field and an excellent understanding of Apex standard methodology for the Assurance of Sustainability Reports.

Attestation:



Trevor A. Donaghy, Lead Assuror
Program Manager
Sustainability and Climate Change Services



John Rohde, Technical Reviewer
Practice Lead
Sustainability and Climate Change Services

March 17, 2021



Letter of Assurance

Comprehensive Carbon Footprint – Scope 3: Product related Carbon Footprint for Fiscal Year 2020

Fraunhofer IZM reviewed Apple's scope 3 carbon footprint data related to the products manufactured and sold by Apple Inc. in fiscal year 2020.

1 Summary

This review checks transparency of data and calculations, appropriateness of supporting product related data and assumptions, and overall plausibility of the calculated comprehensive annual carbon footprint comprised of emissions derived from the life cycle assessment (LCA) of Apple products shipped in fiscal year 2020. This review and verification focuses on Scope 3 emissions for products sold by Apple Inc. (as defined by WRI/WBCSD/Greenhouse Gas Protocol – Scope 3 Accounting and Reporting Standard). It is noted that emissions relating to the facilities that are owned or leased by Apple (scope 1 and 2 emissions) as well as business travel and employee commute were subject to a separate third party verification and are therefore excluded from the scope of this statement. Confidential data relating to product sales and shipments were also excluded from the scope of this verification.

This review and verification covers Apple's annual greenhouse gas emissions and does not replace reviews conducted for individual product LCAs for greenhouse gas emissions (GHGs). The life cycle emissions data produced by Apple for individual products has been calculated in accordance to the standard ISO 14040/14044: Environmental management – Life cycle assessment – Principles and framework / Requirements and guidelines. This review and verification furthermore complies with ISO 14064-3: Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

The review of the annual carbon footprint has considered the following criteria:

- The system, boundaries and functional unit are clearly defined
- Assumptions and estimations made are appropriate
- Selection of primary and secondary data is appropriate and methodologies used are adequately disclosed

These criteria are also fundamental to the review of LCAs conducted for individual product emissions. The reviewers note that the largest share (98%) of Apple Inc. annual carbon



footprint is comprised of scope 3 emissions from individual products. The aforementioned criteria have been regularly reviewed by Fraunhofer IZM since 2007 with a view to providing independent feedback that can facilitate continuous improvement and refinement in the LCA methodology applied by Apple Inc.

Data reported by Apple is as follows:

	Manufacturing	Transportation	Product Use	Recycling
2020	16.13	1.77	4.29	0.06
	[MMT CO ₂ e]	[MMT CO ₂ e]	[MMT CO ₂ e]	[MMT CO ₂ e]

MMT CO₂e: million metric tons carbon dioxide equivalents

Including a reported value of 0.33 million metric tons CO₂e for facilities (out of scope of this verification), total comprehensive carbon footprint is reported to be 22.59 million metric tons CO₂e.

Apple's comprehensive carbon footprint includes an increasing amount of greenhouse gas emissions reductions for manufacturing resulting from Apple renewable energy projects, supplier renewable electricity purchases, and supplier renewable electricity installations. These reductions are part of Apple's Clean Energy Program. Fraunhofer IZM has not verified these emissions reductions.

Based on the process and procedures conducted, there is no evidence that the Greenhouse Gas (GHG) assertion with regards to scope 3 carbon footprint

- is not materially correct and is not a fair representation of GHG data and information, and
- has not been prepared in accordance with the related International Standard on GHG quantification, monitoring and reporting.

2 Reviewed Data and Plausibility Check

A verification and sampling plan as required by ISO 14046-3 has been established for the comprehensive carbon footprint review and verification, defining the level of assurance, objectives, criteria, scope and materiality of the verification.

As part of this review and verification Apple disclosed following data to Fraunhofer IZM:

- Sales data for FY2020, including accessories and including AppleCare, Apple's extended warranty and technical support plans for their devices.
- Life cycle GHG emissions for all products, differentiating the actual product configurations (e.g. memory capacity)



- Calculation methodology for the comprehensive carbon footprint and methodological changes implemented in 2020
- The total carbon footprint – scope 3 for the fiscal year 2020
- Detailed analysis of the comprehensive carbon footprint including:
 - The breakdown of the carbon footprint into life cycle phases manufacturing, transportation, product use and recycling
 - Detailed product specific split into life cycle phases
 - The contribution of individual products and product families to the overall carbon footprint

The data and information supporting the GHG assertion were projected (use phase and recycling) and historical (i.e. fiscal year 2020 data regarding sales figures, manufacturing, transportation, use patterns where available).

This review comprises a check of selected data, which are most influential to the overall carbon footprint. The overall plausibility check addressed the following questions:

- Are product LCAs referenced and updated with more recent data correctly?
- Are results for products, for which no full LCA review was undertaken, plausible?
- Are carbon emission data for individual products plausible in the light of methodological changes as indicated by Apple?

This review was done remotely.

3 Findings

In FY2020 and beginning of FY2021 4 recent product LCA studies have been reviewed successfully against ISO 14040/44. These LCAs cover product segments iPhone, MacBook Pro, iMac, and Apple Watch. These recently reviewed LCA studies cover products which represent in total 9.7% of the total scope 3 carbon footprint. Representatives of other product segments (iPad, iPod, Mac Pro, MacBook Air, HomePod, AirPort Express / AirPort Extreme, Apple TV, AirPods and Beats products) underwent no or only minor design changes compared to those which went through a full LCA review in former years. All reviewed LCA studies up to now cover in total 74.5% of the total scope 3 carbon footprint.



All questions raised in the course of the review were answered by Apple and related evidence was provided where needed.

4 Conclusions

Apple's assessment approach is excellent in terms of granularity of the used calculation data. A significant share of components is modelled with accurate primary data from Apple's suppliers.

For all product LCA calculations, where exact data was missing, the principle of a worst-case approach has been followed and results have been calculated with rather conservative estimates.

The review has not found assumptions or calculation errors on the carbon footprint data level that indicate the scope 3 carbon footprint has been materially misstated. The excellent analysis meets the principles of good scientific practice.

Berlin, April 1, 2021

A handwritten signature in blue ink, appearing to read "K. Schischke".

- Karsten Schischke -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

A handwritten signature in blue ink, appearing to read "M. Proske".

- Marina Proske -
Fraunhofer IZM
Dept. Environmental and
Reliability Engineering

Appendix E

Environmental health and safety policy statement

Mission statement

Apple Inc. is committed to protecting the environment, health, and safety of our employees, customers, and the global communities where we operate.

We recognize that by integrating sound environmental, health, and safety management practices into all aspects of our business, we can offer technologically innovative products and services while conserving and enhancing resources for future generations.

Apple strives for continuous improvement in our environmental, health, and safety management systems and in the environmental quality of our products, processes, and services.

Guiding principles

Meet or exceed all applicable environmental, health, and safety requirements. We will evaluate our EHS performance by monitoring ongoing performance results and through periodic management reviews.

Where laws and regulations do not provide adequate controls, we will adopt our own standards to protect human health and the environment.

Support and promote sound scientific principles and fiscally responsible public policy that enhance environmental quality, health and safety.

Advocate the adoption of prudent environmental, health, and safety principles and practices by our contractors, vendors, and suppliers.

Communicate environmental, health, and safety policies and programs to Apple employees and stakeholders.

Design, manage, and operate our facilities to maximize safety, promote energy and water efficiency, and protect the environment.

Strive to create products that are safe in their intended use, conserve energy and resources, and prevent pollution throughout the product life cycle including design, manufacture, use, and end-of-life management.

Ensure that all employees are aware of their role and responsibility to fulfill and sustain Apple's environmental, health, and safety management systems and policy.

Luca Maestri,
Senior Vice President and CFO
January 2020

Appendix F

ISO 14001 certification

Apple operates manufacturing facilities in Cork, Ireland.
We certify 100 percent of these facilities with ISO 14001



NSAI

Certificate of Registration of Environmental Management System to I.S. EN ISO 14001:2015

Apple Operations Europe

Hollyhill Industrial Estate
Hollyhill
Cork

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The management of all EMEA operational activities related to manufacturing, sales, delivery and after sales support for direct retail and channel customers.

Approved by:
Fergal O'Byrne
Head - Business Excellence, NSAI



Registration Number: 14.0202
Original Registration: 20 March 2001
Last amended on: 11 July 2018
Valid from: 11 July 2018
Remains valid to: 10 July 2021

This certificate remains valid on condition that the Approved Environmental Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet - the international certification network (www.iqnet-certification.com)



All valid certifications are listed on NSAI's website - www.nsa.ie. The continued validity of this certificate may be verified under "Certified Company Search"



NSAI (National Standards Authority of Ireland), 1 Swift Square, Northwood, Santry, Dublin 9, Ireland T +353 1 807 3800 E: info@nsai.ie www.nsa.ie



CERTIFICATE

NSAI has issued an IQNet recognised certificate that the organisation:

Apple Operations Europe

Hollyhill Industrial Estate
Hollyhill
Cork

has implemented and maintains a

Environmental Management System

for the following scope:

The management of all EMEA operational activities related to manufacturing, sales, delivery and after sales support for direct retail and channel customers.

which fulfils the requirements of the following standard:

I.S. EN ISO 14001:2015

Issued on: 11 July 2018
First issued on: 20 March 2001
Expires on: 10 July 2021

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Registration Number: IE-14.0202



Alex Stoichitoiu
President of IQNet

Fergal O'Byrne
Head - Business Excellence, NSAI



IQNet Partners*

AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertifiointi Oy Finland INTECO Costa Rica IRAM Argentina IQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland NYCE-SICE Mexico PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

Report Notes:

About this report: This report is published annually in April, and focuses primarily on fiscal year activities. This report addresses environmental impacts and activities at Apple facilities (corporate offices, data centers, and retail stores), as well as the life cycle impacts of our products, including in the manufacturing, transportation, use, and end-of-life phases. To provide feedback on this report, please contact environment-report@apple.com.

Reporting year: All references to year throughout the report refer to the calendar year unless fiscal year is specified.

Definitions

Recycled materials: Recycling makes better use of finite resources by sourcing from recovered rather than mined materials. We ask our suppliers to have recycled content verified by an independent third party to a standard that conforms to ISO 14021.

Bio-based plastics: Bio-based plastics are made from biological sources rather than from fossil-fuel sources. Bio-based plastics allow us to reduce reliance on fossil fuels.

Renewable materials: We define bio-materials as those that can be regenerated in a human lifespan, like paper fibers or sugarcane. Bio-materials can help us use fewer finite resources. But even though bio-materials have the ability to regrow, they are not always managed responsibly. Renewable materials are a type of bio-material managed in a way that enables continuous production without depleting earth's resources. That's why we focus on sources that are certified for their management practices.

End notes

- 1 The Science Based Targets initiative (SBTi) recently validated Apple's emissions reduction target: 61.7 percent by 2030 relative to our 2019 emissions. This SBTi-approved target is derived from our current target—to reduce emissions by 75 percent by 2030—only with a 2019 base year, instead of 2015.
- 2 U.S. EPA Greenhouse Gas Equivalencies Calculator: www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.
- 3 Natural gas use has been re-stated for fiscal years 2017–2019 based on corrected billing data.
- 4 Mac mini (2018) was used for comparison as the most recently released and similar device. Preproduction Mac mini (M1, 2020) with 256GB storage was compared to shipping Mac mini (2018) since these are the two lowest configurations offered.
- 5 Testing conducted by Apple in October 2020 using a preproduction Mac mini with Apple M1 chip, 8GB of memory, 256GB SSD and LG UltraFine 5K Display, and a shipping Mac mini with a quad-core Intel Core i3 processor, 8GB of memory, 256GB SSD, and LG UltraFine 5K Display. Energy consumption was measured during wireless browsing of top websites.
- 6 Based on sales-weighted averages of Mac, iPad, iPhone, Apple Watch, Apple TV, HomePod, AirPods, and Beats.
- 7 Eligible products are those in a product category for which ENERGY STAR certification exists. For more information, visit www.energystar.gov. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency.
- 8 Our eligible products achieved a Gold rating in the United States and Canada, in accordance with IEEE 1680.1 or UL 110, and are listed as such on the Electronic Product Environmental Assessment Tool (EPEAT) Registry. Eligible products are those in a product category for which EPEAT registration exists, including computers, displays, and mobile phones based on environmental requirements in these standards. For more information, visit www.epeat.net.
- 9 Energy consumption and energy efficiency values are based on the ENERGY STAR Program Requirements for Computers, including the max energy allowance for iPad (8th generation). For more information, visit www.energystar.gov. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency.
iPad (8th generation) is tested with a fully charged battery and powered by the 20W USB Power Adapter with the USB-C to Lightning Cable (1m).
 - Sleep: Low power state that is entered automatically after two minutes of inactivity (default) or by pressing the Sleep/Wake button. Connected to Wi-Fi. All other settings were left in their default state.
 - Idle—Display on: Display brightness was set as defined by ENERGY STAR Program Requirements for Computers, and Auto-Brightness was turned off. Connected to Wi-Fi. All other settings were left in their default state.
 - Power adapter, no-load: Condition in which the 20W USB Power Adapter with the USB-C to Lightning Cable (1m) is connected to AC power but not connected to iPad (8th generation).
 - Power adapter efficiency: Average of the 20W USB Power Adapter with the USB-C to Lightning Cable (1m) measured efficiency when tested at 100 percent, 75 percent, 50 percent, and 25 percent of the power adapter's rated output current.
- 10 Based on ENERGY STAR Most Efficient list for computer monitors in 2020 and 2021.
- 11 Efficiency performance is based on the U.S. Department of Energy Federal Energy Conservation Standards for Battery Chargers. Energy efficiency terms: The energy efficiency values are based on the following conditions.
 - Power adapter, no-load: Condition in which the Apple USB Power Adapter with the USB-C to Lightning Cable (1m) is connected to AC power, but not connected to iPhone.
 - Power adapter efficiency: Average of the Apple 20W USB Power Adapter with the USB-C to Lightning Cable (1m) measured efficiency when tested at 100 percent, 75 percent, 50 percent, and 25 percent of the power adapter's rated output current.
- 12 ASHRAE, the American Society of Heating, Refrigerating and Air-Conditioning Engineers—creates global standards for energy-efficient design including the ASHRAE 90.4 standard specific to data centers. This standard specifically addresses mechanical and electrical system efficiencies within a data center, and uses two metrics: mechanical load component (MLC) and electrical load component (ELC). For more information visit: ashrae.org.
- 13 Due to the Covid-19 pandemic, our energy use declined temporarily as we adjusted lighting and climate controls due to shutdowns and reduced occupancy. These savings are not included in the total savings from our energy efficiency program initiatives. We also recognize that energy use at our employees' homes likely increased during this period.
- 14 Annualized metric tons of supply chain carbon compared to fiscal year 2019 metrics. In previous environmental progress reports, this metric was reported based on calendar year data.
- 15 Our GHG reporting requirement applies to all suppliers under our Code of Conduct.
- 16 The Impact Accelerator is a capacity-building program for companies that are at least 51 percent owned, operated, and controlled by an African American, Hispanic American/LatinX, or Indigenous American individual.
- 17 This includes all direct electricity use within our scope 2 boundary.
- 18 Includes all devices collected by Apple for refurbishing during fiscal year 2020.
- 19 As of December 2020, all established final assembly supplier sites—or those that have been Apple suppliers for more than one year—for iPhone, iPad, Mac, Apple Watch, AirPods, HomePod, Apple TV, and Beats are third-party certified as Zero Waste by UL LLC (UL 2799 Standard). UL requires at least 90 percent diversion through methods other than waste to energy to achieve Zero Waste to Landfill (Silver 90–94 percent, Gold 95–99 percent, and Platinum 100 percent) designations.
- 20 This recycled content has been verified by an independent third party to a recycled content standard that conforms to ISO 14021.
- 21 Recycling makes better use of finite resources by sourcing from recovered rather than mined materials. We ask our suppliers to have recycled content verified by an independent third party to a standard that conforms to ISO 14021.
- 22 We define bio-materials as those that can be regenerated in a human lifespan, like paper fibers or sugarcane. Bio-materials can help us use fewer finite resources. But even though bio-materials have the ability to regrow, they are not always managed responsibly. Renewable materials are a type of bio-material managed in a way that enables continuous production without depleting earth's resources. That's why we focus on sources that are certified for their management practices.

- 23 Made from 100 percent recycled materials, the 16,000 polyester yarn filaments in each band are interwoven with thin silicone threads using advanced braiding machinery.
- 24 Rare earth elements in the magnets can represent about 2–4 percent of the mass of the Taptic Engine, and tungsten represents about 40–63 percent.
- 25 Made from 100 percent recycled materials, the 16,000 polyester yarn filaments in each band are interwoven with thin silicone threads using advanced braiding machinery.
- 26 Responsible sourcing of wood fiber is defined in [Apple's Sustainable Fiber Specification \(PDF\)](#). We consider wood fibers to include bamboo.
- 27 Based on expected equivalent fiber production from our forestry projects and virgin fiber used for Apple product packaging. To determine the output of Apple's projects, we work with our partners to understand the productive potential of these working forests. The forest management plans required to achieve or maintain certification limit harvest volumes to sustainable levels. We use these potential harvest volumes to estimate the sustainable productive capacity of these forests.
- 28 Claim based on iPhone 12 Ceramic Shield front compared with previous-generation iPhone.
- 29 iPhone 12 is splash, water, and dust resistant and was tested under controlled laboratory conditions with a rating of IP68 under IEC standard 60529 (maximum depth of 6 meters up to 30 minutes). Splash, water, and dust resistance are not permanent conditions and resistance might decrease as a result of normal wear. Do not attempt to charge a wet iPhone; refer to the user guide for cleaning and drying instructions. Liquid damage not covered under warranty.
- 30 Refurbished products are not available in all countries.
- 31 The Carnegie Mellon University Robotics Institute receives funding from Apple as part of this recycling technology initiative.
- 32 We define high risk as those areas with high or extremely high overall water risk based on the WRI Aqueduct Water Risk Atlas tool.
- 33 This total includes freshwater use as well as alternative water sources including recycled water, rainwater, and recovered condensate. We define freshwater as drinking-water quality, the majority of which comes from municipal sources and less than 5 percent comes from onsite groundwater sources. Recycled water represents a key alternative water source. Our recycled water is sourced primarily from municipal treatment plants, with less than 5 percent from onsite treatment. Recycled water is primarily used for irrigation, make-up water in cooling, or toilet flushing. Other alternative sources of freshwater include rainwater and recovered condensate that is captured onsite. Water used for construction for activities like dust control is not included in this total, and represents 8 million gallons of water used in fiscal year 2020. Our actual water discharge may vary by 10 percent relative to our estimates. In these estimates, we've taken into account consumptive activities including irrigation and cooling towers.
- 34 These savings do not include reduction in water use from facility closures and reduced occupancy due to the Covid-19 pandemic. We consider those savings temporary and also acknowledge that the water use was transferred to employees' homes.
- 35 We calculate water discharge based on known evaporation, from activities like cooling and irrigation. For sites where these evaporative activities are not present we estimate that water withdrawn is returned to municipal systems. We estimate our margin of error to be approximately 10 percent, and will continue to update our model with new sources of data.
- 36 Diversion rates do not include construction and demolition waste or electronic waste for fiscal year 2020. Electronic waste is accounted for in the total metric tons of electronic waste we sent to recycling found on [page 45](#).
- 37 Our Prineville facility is third-party certified as Zero Waste by USGBC TRUE. TRUE requires 90 percent diversion or higher from the landfill without the use of waste-to-energy to achieve Zero Waste to Landfill.
- 38 Total does not include construction and demolition waste nor electronic waste for fiscal year 2020.
- 39 This waste-to-energy option is not yet available to sites in Alaska and Hawaii.
- 40 All established final assembly supplier sites—or those that have been Apple suppliers for more than one year—for iPhone, iPad, Mac, Apple Watch, AirPods, HomePod, Apple TV, and Beats are third-party certified as Zero Waste by UL LLC (UL 2799 Standard). UL requires at least 90 percent diversion through methods other than waste to energy to achieve Zero Waste to Landfill (Silver 90–94 percent, Gold 95–99 percent and Platinum 100 percent) designations.
- 41 ASHRAE—the American Society of Heating, Refrigerating and Air-Conditioning Engineers—creates global standards for energy-efficient design. For more information visit: [ashrae.org](#).
- 42 Apple defines its restrictions on harmful substances, including thresholds for each substance, in the [Apple Regulated Substances Specification](#). Apple products are free of PVC and phthalates with the exception of AC power cords in India, Thailand, and South Korea—where we continue to seek government approval for our PVC and phthalates replacement. Apple's phaseout of BFRs and PVC covers all new Apple product designs manufactured since 2009, all Beats products manufactured since 2016, and Beddit Sleep Monitors manufactured since late 2018. While Apple's phaseout covers the vast majority of products and components, some older Apple product designs may not be fully BFR-free and PVC-free. However, these products, including their replacement parts and accessories, were still designed to meet regulatory requirements. Apple products comply with the European Union Directive 2011/65/EU and its amendments, including exemptions for the use of lead. Apple is working to phase out the use of these exempted substances where technically possible. Arsenic is present in minuscule quantities in some semiconductor devices.
- 43 As part of our collaboration, Apple provided a grant to ChemFORWARD to support the creation of the safer cleaner framework and repository.

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MOTION FOR JUDICIAL NOTICE (PART II)
ADDITIONAL EXHIBIT

SECTION:

Apple 2021 10-K

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended September 25, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission File Number: **001-36743**



Apple Inc.

(Exact name of Registrant as specified in its charter)

California

(State or other jurisdiction
of incorporation or organization)

**One Apple Park Way
Cupertino, California**

(Address of principal executive offices)

94-2404110

(I.R.S. Employer Identification No.)

95014

(Zip Code)

(408) 996-1010

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.00001 par value per share	AAPL	The Nasdaq Stock Market LLC
1.000% Notes due 2022	—	The Nasdaq Stock Market LLC
1.375% Notes due 2024	—	The Nasdaq Stock Market LLC
0.000% Notes due 2025	—	The Nasdaq Stock Market LLC
0.875% Notes due 2025	—	The Nasdaq Stock Market LLC
1.625% Notes due 2026	—	The Nasdaq Stock Market LLC
2.000% Notes due 2027	—	The Nasdaq Stock Market LLC
1.375% Notes due 2029	—	The Nasdaq Stock Market LLC
3.050% Notes due 2029	—	The Nasdaq Stock Market LLC
0.500% Notes due 2031	—	The Nasdaq Stock Market LLC
3.600% Notes due 2042	—	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files).

Yes ☒ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒

Non-accelerated filer ☐

Accelerated filer ☐

Smaller reporting company ☐

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act).

Yes ☐ No ☒

The aggregate market value of the voting and non-voting stock held by non-affiliates of the Registrant, as of March 26, 2021, the last business day of the Registrant's most recently completed second fiscal quarter, was approximately \$2,021,360,000,000. Solely for purposes of this disclosure, shares of common stock held by executive officers and directors of the Registrant as of such date have been excluded because such persons may be deemed to be affiliates. This determination of executive officers and directors as affiliates is not necessarily a conclusive determination for any other purposes.

16,406,397,000 shares of common stock were issued and outstanding as of October 15, 2021.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement relating to its 2022 annual meeting of shareholders (the "2022 Proxy Statement") are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The 2022 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

Apple Inc.

Form 10-K

For the Fiscal Year Ended September 25, 2021

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This Annual Report on Form 10-K ("Form 10-K") contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Many of the forward-looking statements are located in Part II, Item 7 of this Form 10-K under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. For example, statements in this Form 10-K regarding the potential future impact of the COVID-19 pandemic on the Company's business and results of operations are forward-looking statements. Forward-looking statements can also be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "will," "would," "could," "can," "may," and similar terms. Forward-looking statements are not guarantees of future performance and the Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A of this Form 10-K under the heading "Risk Factors." The Company assumes no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Unless otherwise stated, all information presented herein is based on the Company's fiscal calendar, and references to particular years, quarters, months or periods refer to the Company's fiscal years ended in September and the associated quarters, months and periods of those fiscal years. Each of the terms the "Company" and "Apple" as used herein refers collectively to Apple Inc. and its wholly owned subsidiaries, unless otherwise stated.

PART I

Item 1. Business

Company Background

The Company designs, manufactures and markets smartphones, personal computers, tablets, wearables and accessories, and sells a variety of related services. The Company's fiscal year is the 52- or 53-week period that ends on the last Saturday of September.

Products

iPhone

iPhone® is the Company's line of smartphones based on its iOS operating system. In October and November 2020, the Company released iPhone 12, iPhone 12 mini, iPhone 12 Pro and iPhone 12 Pro Max, all with 5G technology. In September 2021, the Company released iPhone 13, iPhone 13 mini, iPhone 13 Pro and iPhone 13 Pro Max.

Mac

Mac® is the Company's line of personal computers based on its macOS® operating system. In November 2020, the Company released new versions of MacBook Air®, 13-inch MacBook Pro® and Mac mini®, and in May 2021, the Company released a redesigned iMac®, all powered by the Apple M1 chip. In October 2021, the Company released a redesigned MacBook Pro, available in 14- and 16-inch models and powered by the Apple M1 Pro or M1 Max chip.

iPad

iPad® is the Company's line of multipurpose tablets based on its iPadOS® operating system. In October 2020, the Company released a new iPad Air®, and in April 2021, the Company released a new iPad Pro® powered by the Apple M1 chip. In September 2021, the Company released an updated iPad and a new iPad mini®.

Wearables, Home and Accessories

Wearables, Home and Accessories includes AirPods®, Apple TV®, Apple Watch®, Beats® products, HomePod®, iPod touch® and accessories. AirPods are the Company's wireless headphones that interact with Siri®. In December 2020, the Company released AirPods Max™, new over-ear wireless headphones, and in October 2021, the Company released the third generation of AirPods. Apple Watch is the Company's line of smart watches based on its watchOS® operating system. In September 2021, the Company announced Apple Watch Series 7, which was available starting in October 2021.

Services*Advertising*

The Company's advertising services include various third-party licensing arrangements and the Company's own advertising platforms.

AppleCare

The Company offers a portfolio of fee-based service and support products under the AppleCare[®] brand. The offerings provide priority access to Apple technical support, access to the global Apple authorized service network for repair and replacement services, and in many cases additional coverage for instances of accidental damage and/or theft and loss, depending on the country and type of product.

Cloud Services

The Company's cloud services store and keep customers' content up-to-date and available across multiple Apple devices and Windows personal computers.

Digital Content

The Company operates various platforms, including the App Store[®], that allow customers to discover and download applications and digital content, such as books, music, video, games and podcasts.

The Company also offers digital content through subscription-based services, including Apple Arcade[®], a game subscription service; Apple Music[®], which offers users a curated listening experience with on-demand radio stations; Apple News+[®], a subscription news and magazine service; and Apple TV+SM, which offers exclusive original content. During 2021, the Company released Apple Fitness+SM, a personalized fitness service.

Payment Services

The Company offers payment services, including Apple Card[®], a co-branded credit card, and Apple Pay[®], a cashless payment service.

Markets and Distribution

The Company's customers are primarily in the consumer, small and mid-sized business, education, enterprise and government markets. The Company sells its products and resells third-party products in most of its major markets directly to consumers, small and mid-sized businesses, and education, enterprise and government customers through its retail and online stores and its direct sales force. The Company also employs a variety of indirect distribution channels, such as third-party cellular network carriers, wholesalers, retailers and resellers. During 2021, the Company's net sales through its direct and indirect distribution channels accounted for 36% and 64%, respectively, of total net sales.

Competition

The markets for the Company's products and services are highly competitive, and are characterized by aggressive price competition and resulting downward pressure on gross margins, frequent introduction of new products and services, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, rapid adoption of technological advancements by competitors, and price sensitivity on the part of consumers and businesses. Many of the Company's competitors seek to compete primarily through aggressive pricing and very low cost structures, and by imitating the Company's products and infringing on its intellectual property.

The Company's ability to compete successfully depends heavily on ensuring the continuing and timely introduction of innovative new products, services and technologies to the marketplace. The Company designs and develops nearly the entire solution for its products, including the hardware, operating system, numerous software applications and related services. Principal competitive factors important to the Company include price, product and service features (including security features), relative price and performance, product and service quality and reliability, design innovation, a strong third-party software and accessories ecosystem, marketing and distribution capability, service and support, and corporate reputation.

The Company is focused on expanding its market opportunities related to smartphones, personal computers, tablets, wearables and accessories, and services. The Company faces substantial competition in these markets from companies that have significant technical, marketing, distribution and other resources, as well as established hardware, software, and service offerings with large customer bases. In addition, some of the Company's competitors have broader product lines, lower-priced products and a larger installed base of active devices. Competition has been particularly intense as competitors have aggressively cut prices and lowered product margins. Certain competitors have the resources, experience or cost structures to provide products at little or no profit or even at a loss. The Company's services compete with business models that provide content to users for free and use illegitimate means to obtain third-party digital content and applications. The Company faces significant competition as competitors imitate the Company's product features and applications within their products, or collaborate to offer integrated solutions that are more competitive than those they currently offer.

Supply of Components

Although most components essential to the Company's business are generally available from multiple sources, certain components are currently obtained from single or limited sources. The Company also competes for various components with other participants in the markets for smartphones, personal computers, tablets, wearables and accessories. Therefore, many components used by the Company, including those that are available from multiple sources, are at times subject to industry-wide shortage and significant commodity pricing fluctuations.

The Company uses some custom components that are not commonly used by its competitors, and new products introduced by the Company often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, may be affected if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements.

The Company has entered into agreements for the supply of many components; however, there can be no guarantee that the Company will be able to extend or renew these agreements on similar terms, or at all.

Substantially all of the Company's hardware products are manufactured by outsourcing partners that are located primarily in Asia, with some Mac computers manufactured in the U.S. and Ireland.

Research and Development

Because the industries in which the Company competes are characterized by rapid technological advances, the Company's ability to compete successfully depends heavily upon its ability to ensure a continual and timely flow of competitive products, services and technologies to the marketplace. The Company continues to develop new technologies to enhance existing products and services, and to expand the range of its offerings through research and development ("R&D"), licensing of intellectual property and acquisition of third-party businesses and technology.

Intellectual Property

The Company currently holds a broad collection of intellectual property rights relating to certain aspects of its hardware devices, accessories, software and services. This includes patents, copyrights, trademarks, service marks, trade dress and other forms of intellectual property rights in the U.S. and various foreign countries. Although the Company believes the ownership of such intellectual property rights is an important factor in its business and that its success does depend in part on such ownership, the Company relies primarily on the innovative skills, technical competence and marketing abilities of its personnel.

The Company regularly files patent applications to protect innovations arising from its research, development and design, and is currently pursuing thousands of patent applications around the world. Over time, the Company has accumulated a large portfolio of issued patents, including utility patents, design patents and others. The Company also holds copyrights relating to certain aspects of its products and services. No single intellectual property right is solely responsible for protecting the Company's products. The Company believes the duration of its intellectual property rights is adequate relative to the expected lives of its products.

In addition to Company-owned intellectual property, many of the Company's products and services are designed to include intellectual property owned by third parties. It may be necessary in the future to seek or renew licenses relating to various aspects of the Company's products, processes and services. While the Company has generally been able to obtain such licenses on commercially reasonable terms in the past, there is no guarantee that such licenses could be obtained in the future on reasonable terms or at all.

Business Seasonality and Product Introductions

The Company has historically experienced higher net sales in its first quarter compared to other quarters in its fiscal year due in part to seasonal holiday demand. Additionally, new product and service introductions can significantly impact net sales, cost of sales and operating expenses. The timing of product introductions can also impact the Company's net sales to its indirect distribution channels as these channels are filled with new inventory following a product launch, and channel inventory of an older product often declines as the launch of a newer product approaches. Net sales can also be affected when consumers and distributors anticipate a product introduction.

Human Capital

The Company believes it has a talented, motivated, and dedicated team, and is committed to supporting the development of all of its team members and to continuously building on its strong culture. As of September 25, 2021, the Company had approximately 154,000 full-time equivalent employees.

Workplace Practices and Policies

The Company is committed to providing a workplace free of harassment or discrimination based on race, color, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status, caste or other legally protected characteristic. The Company is an equal opportunity employer committed to inclusion and diversity.

Compensation and Benefits

The Company believes that compensation should not only be competitive; it should be equitable and should enable employees to share in the Company's success as shareholders of the Company. The Company recognizes its people are most likely to thrive when they have the resources to meet their needs and the time and support to succeed in their professional and personal lives. In support of this, the Company offers a wide variety of benefits to employees around the world.

Growth and Development

The Company invests in tools and resources that support employees' individual growth and development. The Company also provides classes and seminars to foster understanding and critical thinking about the Company's culture, organization and values.

Inclusion and Diversity

The Company is committed to hiring inclusively, providing training and development opportunities, fostering an inclusive culture, and ensuring equitable pay for employees, and is continuing to focus on increasing diverse representation at every level of the Company.

The Company has initiatives in place to implement its commitment to increase diverse representation, including creating diverse interview panels and candidate slates, focusing on robust diversity recruiting efforts, and expanding diversity outreach efforts through organizations that serve and engage talent from underrepresented communities. The Company also offers team members access to ongoing inclusion and diversity education, and support throughout their career journey and helps them find community and connection through employee groups that create spaces for belonging, learning, and growing inclusivity, diversity and equity efforts.

Engagement

The Company believes that open and honest communication among team members, managers and leadership fosters an open, collaborative work environment where everyone can participate, develop and thrive. Team members are encouraged to come to their managers with questions, feedback or concerns, and the Company regularly conducts surveys that gauge employee sentiment in areas like career development, manager performance and inclusivity.

Health and Safety

The Company is committed to protecting its employees everywhere it operates. The Company identifies potential risks associated with workplace activities in order to develop measures to mitigate possible hazards. The Company supports employees with general safety training and puts specific programs in place for those working in potentially high-hazard environments, including chemical management, laser safety, equipment and machinery safety, hazardous materials management and electrical safety. The Company has taken additional measures during the COVID-19 pandemic, including providing information resources, testing, face masks and personal protective equipment, and case support. The Company also offers special sick leave for employees with possible COVID-19 symptoms, as well as comprehensive health coverage.

Available Information

The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are filed with the U.S. Securities and Exchange Commission (the "SEC"). Such reports and other information filed by the Company with the SEC are available free of charge at investor.apple.com/investor-relations/sec-filings/default.aspx when such reports are available on the SEC's website. The Company periodically provides other information for investors on its corporate website, www.apple.com, and its investor relations website, investor.apple.com. This includes press releases and other information about financial performance, information on environmental, social and corporate governance and details related to the Company's annual meeting of shareholders. The information contained on the websites referenced in this Form 10-K is not incorporated by reference into this filing. Further, the Company's references to website URLs are intended to be inactive textual references only.

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Item 1A. Risk Factors

The Company's business, reputation, results of operations and financial condition, as well as the price of the Company's stock, can be affected by a number of factors, whether currently known or unknown, including those described below. When any one or more of these risks materialize from time to time, the Company's business, reputation, results of operations and financial condition, as well as the price of the Company's stock, can be materially and adversely affected.

Because of the following factors, as well as other factors affecting the Company's results of operations and financial condition, past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods. This discussion of risk factors contains forward-looking statements.

This section should be read in conjunction with Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and accompanying notes in Part II, Item 8, "Financial Statements and Supplementary Data" of this Form 10-K.

Risks Related to COVID-19

The Company's business, results of operations and financial condition, as well as the price of the Company's stock, have been adversely affected and could in the future be materially adversely affected by the COVID-19 pandemic.

COVID-19 has had, and continues to have, a significant impact around the world, prompting governments and businesses to take unprecedented measures in response. Such measures have included restrictions on travel and business operations, temporary closures of businesses, and quarantine and shelter-in-place orders. The COVID-19 pandemic has at times significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets.

The COVID-19 pandemic and the measures taken by many countries in response have adversely affected and could in the future materially adversely impact the Company's business, results of operations and financial condition, as well as the price of the Company's stock. During the course of the pandemic, certain of the Company's component suppliers and manufacturing and logistical service providers have experienced disruptions, resulting in supply shortages that affected sales worldwide, and similar disruptions could occur in the future. The Company's retail stores, as well as channel partner points of sale, have been temporarily closed at various times. In many cases, as stores and points of sale have reopened, they are subject to operating restrictions to protect public health and the health and safety of employees and customers. The Company has at times required substantially all of its employees to work remotely.

The Company continues to monitor the situation and take appropriate actions in accordance with the recommendations and requirements of relevant authorities. The extent to which the COVID-19 pandemic may impact the Company's operational and financial performance remains uncertain and will depend on many factors outside the Company's control, including the timing, extent, trajectory and duration of the pandemic, the emergence of new variants, the development, availability, distribution and effectiveness of vaccines and treatments, the imposition of protective public safety measures, and the impact of the pandemic on the global economy and demand for consumer products. Additional future impacts on the Company may include, but are not limited to, material adverse effects on demand for the Company's products and services, the Company's supply chain and sales and distribution channels, the Company's ability to execute its strategic plans, and the Company's profitability and cost structure.

To the extent the COVID-19 pandemic adversely affects the Company's business, results of operations, financial condition and stock price, it may also have the effect of heightening many of the other risks described in this Part I, Item 1A of this Form 10-K.

Macroeconomic and Industry Risks

The Company's operations and performance depend significantly on global and regional economic conditions and adverse economic conditions can materially adversely affect the Company's business, results of operations and financial condition.

The Company has international operations with sales outside the U.S. representing a majority of the Company's total net sales. In addition, the Company's global supply chain is large and complex and a majority of the Company's supplier facilities, including manufacturing and assembly sites, are located outside the U.S. As a result, the Company's operations and performance depend significantly on global and regional economic conditions.

Adverse macroeconomic conditions, including inflation, slower growth or recession, new or increased tariffs and other barriers to trade, changes to fiscal and monetary policy, tighter credit, higher interest rates, high unemployment and currency fluctuations can materially adversely affect demand for the Company's products and services. In addition, consumer confidence and spending can be adversely affected in response to financial market volatility, negative financial news, conditions in the real estate and mortgage markets, declines in income or asset values, changes to fuel and other energy costs, labor and healthcare costs and other economic factors.

In addition to an adverse impact on demand for the Company's products, uncertainty about, or a decline in, global or regional economic conditions can have a significant impact on the Company's suppliers, contract manufacturers, logistics providers, distributors, cellular network carriers and other channel partners. Potential effects include financial instability; inability to obtain credit to finance operations and purchases of the Company's products; and insolvency.

A downturn in the economic environment can also lead to increased credit and collectibility risk on the Company's trade receivables; the failure of derivative counterparties and other financial institutions; limitations on the Company's ability to issue new debt; reduced liquidity; and declines in the fair value of the Company's financial instruments. These and other economic factors can materially adversely affect the Company's business, results of operations and financial condition.

The Company's business can be impacted by political events, trade and other international disputes, war, terrorism, natural disasters, public health issues, industrial accidents and other business interruptions.

Political events, trade and other international disputes, war, terrorism, natural disasters, public health issues, industrial accidents and other business interruptions can harm or disrupt international commerce and the global economy, and could have a material adverse effect on the Company and its customers, suppliers, contract manufacturers, logistics providers, distributors, cellular network carriers and other channel partners.

The Company has a large, global business, and the Company believes that it generally benefits from growth in international trade. Trade and other international disputes can result in tariffs, sanctions, and other measures that restrict international trade and can adversely affect the Company's business. For example, tensions between the U.S. and China have led to a series of tariffs being imposed by the U.S. on imports from China mainland, as well as other business restrictions. Tariffs increase the cost of the Company's products and the components and raw materials that go into making them. These increased costs adversely impact the gross margin that the Company earns on its products. Tariffs can also make the Company's products more expensive for customers, which could make the Company's products less competitive and reduce consumer demand. Countries may also adopt other measures, such as controls on imports or exports of goods, technology or data, that could adversely impact the Company's operations and supply chain and limit the Company's ability to offer its products and services as designed. These measures can require the Company to take various actions, including changing suppliers, restructuring business relationships, and ceasing to offer third-party applications on its platforms. Changing the Company's operations in accordance with new or changed trade restrictions can be expensive, time-consuming, disruptive to the Company's operations and distracting to management. Such restrictions can be announced with little or no advance notice and the Company may not be able to effectively mitigate all adverse impacts from such measures. Political uncertainty surrounding trade and other international disputes could also have a negative effect on consumer confidence and spending, which could adversely affect the Company's business.

Many of the Company's operations and facilities, as well as critical business operations of the Company's suppliers and contract manufacturers, are in locations that are prone to earthquakes and other natural disasters. In addition, such operations and facilities are subject to the risk of interruption by fire, power shortages, nuclear power plant accidents and other industrial accidents, terrorist attacks and other hostile acts, ransomware and other cybersecurity attacks, labor disputes, public health issues, including pandemics such as the COVID-19 pandemic, and other events beyond the Company's control. Global climate change is resulting in certain types of natural disasters occurring more frequently or with more intense effects. Such events can make it difficult or impossible for the Company to manufacture and deliver products to its customers, create delays and inefficiencies in the Company's supply and manufacturing chain, and result in slowdowns and outages to the Company's service offerings. Following an interruption to its business, the Company can require substantial recovery time, experience significant expenditures to resume operations, and lose significant sales. Because the Company relies on single or limited sources for the supply and manufacture of many critical components, a business interruption affecting such sources would exacerbate any negative consequences to the Company.

The Company's operations are also subject to the risks of industrial accidents at its suppliers and contract manufacturers. While the Company's suppliers are required to maintain safe working environments and operations, an industrial accident could occur and could result in disruption to the Company's business and harm to the Company's reputation. Major public health issues, including pandemics such as the COVID-19 pandemic, have adversely affected, and could in the future adversely affect, the Company due to their impact on the global economy and demand for consumer products; the imposition of protective public safety measures, such as stringent employee travel restrictions and limitations on freight services and the movement of products between regions; and disruptions in the Company's supply chain and sales and distribution channels, resulting in interruptions of the supply of current products and delays in production ramps of new products.

While the Company maintains insurance coverage for certain types of losses, such insurance coverage may be insufficient to cover all losses that may arise.

Global markets for the Company's products and services are highly competitive and subject to rapid technological change, and the Company may be unable to compete effectively in these markets.

The Company's products and services are offered in highly competitive global markets characterized by aggressive price competition and resulting downward pressure on gross margins, frequent introduction of new products and services, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, rapid adoption of technological advancements by competitors, and price sensitivity on the part of consumers and businesses.

The Company's ability to compete successfully depends heavily on ensuring the continuing and timely introduction of innovative new products, services and technologies to the marketplace. The Company designs and develops nearly the entire solution for its products, including the hardware, operating system, numerous software applications and related services. As a result, the Company must make significant investments in R&D. There can be no assurance these investments will achieve expected returns, and the Company may not be able to develop and market new products and services successfully.

The Company currently holds a significant number of patents, trademarks and copyrights and has registered, and applied to register, additional patents, trademarks and copyrights. In contrast, many of the Company's competitors seek to compete primarily through aggressive pricing and very low cost structures, and by imitating the Company's products and infringing on its intellectual property. Effective intellectual property protection is not consistently available in every country in which the Company operates. If the Company is unable to continue to develop and sell innovative new products with attractive margins or if competitors infringe on the Company's intellectual property, the Company's ability to maintain a competitive advantage could be adversely affected.

The Company has a minority market share in the global smartphone, personal computer and tablet markets. The Company faces substantial competition in these markets from companies that have significant technical, marketing, distribution and other resources, as well as established hardware, software and digital content supplier relationships. In addition, some of the Company's competitors have broader product lines, lower-priced products and a larger installed base of active devices. Competition has been particularly intense as competitors have aggressively cut prices and lowered product margins. Certain competitors have the resources, experience or cost structures to provide products at little or no profit or even at a loss. Some of the markets in which the Company competes have from time to time experienced little to no growth or contracted overall.

Additionally, the Company faces significant competition as competitors imitate the Company's product features and applications within their products or collaborate to offer solutions that are more competitive than those they currently offer. The Company also expects competition to intensify as competitors imitate the Company's approach to providing components seamlessly within their offerings or work collaboratively to offer integrated solutions.

The Company's services also face substantial competition, including from companies that have significant resources and experience and have established service offerings with large customer bases. The Company competes with business models that provide content to users for free. The Company also competes with illegitimate means to obtain third-party digital content and applications.

The Company's business, results of operations and financial condition depend substantially on the Company's ability to continually improve its products and services to maintain their functional and design advantages. There can be no assurance the Company will be able to continue to provide products and services that compete effectively.

Business Risks

To remain competitive and stimulate customer demand, the Company must successfully manage frequent introductions and transitions of products and services.

Due to the highly volatile and competitive nature of the industries in which the Company competes, the Company must continually introduce new products, services and technologies, enhance existing products and services, effectively stimulate customer demand for new and upgraded products and services, and successfully manage the transition to these new and upgraded products and services. The success of new product and service introductions depends on a number of factors, including timely and successful development, market acceptance, the Company's ability to manage the risks associated with production ramp-up issues, the availability of application software for the Company's products, the effective management of purchase commitments and inventory levels in line with anticipated product demand, the availability of products in appropriate quantities and at expected costs to meet anticipated demand, and the risk that new products and services may have quality or other defects or deficiencies. There can be no assurance the Company will successfully manage future introductions and transitions of products and services.

The Company depends on component and product manufacturing and logistical services provided by outsourcing partners, many of which are located outside of the U.S.

Substantially all of the Company's manufacturing is performed in whole or in part by outsourcing partners located primarily in Asia. A significant concentration of this manufacturing is currently performed by a small number of outsourcing partners, often in single locations. The Company has also outsourced much of its transportation and logistics management. While these arrangements can lower operating costs, they also reduce the Company's direct control over production and distribution. Such diminished control has from time to time and may in the future have an adverse effect on the quality or quantity of products manufactured or services provided, or adversely affect the Company's flexibility to respond to changing conditions. Although arrangements with these partners may contain provisions for product defect expense reimbursement, the Company generally remains responsible to the consumer for warranty and out-of-warranty service in the event of product defects and experiences an unanticipated product defect liability from time to time. While the Company relies on its partners to adhere to its supplier code of conduct, violations of the supplier code of conduct occur from time to time and can materially adversely affect the Company's business, reputation, results of operations and financial condition.

The Company relies on single-source outsourcing partners in the U.S., Asia and Europe to supply and manufacture many components, and on outsourcing partners primarily located in Asia, for final assembly of substantially all of the Company's hardware products. Any failure of these partners to perform can have a negative impact on the Company's cost or supply of components or finished goods. In addition, manufacturing or logistics in these locations or transit to final destinations can be disrupted for a variety of reasons, including natural and man-made disasters, information technology system failures, commercial disputes, military actions, economic, business, labor, environmental, public health or political issues, or international trade disputes.

The Company has invested in manufacturing process equipment, much of which is held at certain of its outsourcing partners, and has made prepayments to certain of its suppliers associated with long-term supply agreements. While these arrangements help ensure the supply of components and finished goods, if these outsourcing partners or suppliers experience severe financial problems or other disruptions in their business, such continued supply can be reduced or terminated, and the recoverability of manufacturing process equipment or prepayments can be negatively impacted.

Future operating results depend upon the Company's ability to obtain components in sufficient quantities on commercially reasonable terms.

Because the Company currently obtains certain components from single or limited sources, the Company is subject to significant supply and pricing risks. Many components, including those that are available from multiple sources, are at times subject to industry-wide shortages and significant commodity pricing fluctuations that can materially adversely affect the Company's business, results of operations and financial condition. For example, the global semiconductor industry is experiencing high demand and shortages of supply, which has adversely affected, and could materially adversely affect, the Company's ability to obtain sufficient quantities of components and products on commercially reasonable terms or at all. While the Company has entered into agreements for the supply of many components, there can be no assurance the Company will be able to extend or renew these agreements on similar terms, or at all. Component suppliers may suffer from poor financial conditions, which can lead to business failure for the supplier or consolidation within a particular industry, further limiting the Company's ability to obtain sufficient quantities of components on commercially reasonable terms or at all. The effects of global or regional economic conditions on the Company's suppliers, described in "*The Company's operations and performance depend significantly on global and regional economic conditions and adverse economic conditions can materially adversely affect the Company's business, results of operations and financial condition,*" above, can also affect the Company's ability to obtain components. Therefore, the Company remains subject to significant risks of supply shortages and price increases that can materially adversely affect its business, results of operations and financial condition.

The Company's new products often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, can be affected for any number of reasons, including if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements. When the Company's supply of components for a new or existing product has been delayed or constrained, or when an outsourcing partner has delayed shipments of completed products to the Company, the Company's business, results of operations and financial condition have been adversely affected and future delays or constraints could materially adversely affect the Company's business, results of operations and financial condition. The Company's business and financial performance could also be materially adversely affected depending on the time required to obtain sufficient quantities from the source, or to identify and obtain sufficient quantities from an alternative source.

The Company's products and services may be affected from time to time by design and manufacturing defects that could materially adversely affect the Company's business and result in harm to the Company's reputation.

The Company offers complex hardware and software products and services that can be affected by design and manufacturing defects. Sophisticated operating system software and applications, such as those offered by the Company, often have issues that can unexpectedly interfere with the intended operation of hardware or software products. Defects can also exist in components and products the Company purchases from third parties. Component defects could make the Company's products unsafe and create a risk of environmental or property damage and personal injury. These risks may increase as the Company's products are introduced into specialized applications, including healthcare. In addition, the Company's service offerings can have quality issues and from time to time experience outages, service slowdowns or errors. As a result, the Company's services from time to time have not performed as anticipated and may not meet customer expectations. There can be no assurance the Company will be able to detect and fix all issues and defects in the hardware, software and services it offers. Failure to do so can result in widespread technical and performance issues affecting the Company's products and services. In addition, the Company can be exposed to product liability claims, recalls, product replacements or modifications, write-offs of inventory, property, plant and equipment, and/or intangible assets, and significant warranty and other expenses, including litigation costs and regulatory fines. Quality problems can also adversely affect the experience for users of the Company's products and services, and result in harm to the Company's reputation, loss of competitive advantage, poor market acceptance, reduced demand for products and services, delay in new product and service introductions and lost sales.

The Company is exposed to the risk of write-downs on the value of its inventory and other assets, in addition to purchase commitment cancellation risk.

The Company records a write-down for product and component inventories that have become obsolete or exceed anticipated demand, or for which cost exceeds net realizable value. The Company also accrues necessary cancellation fee reserves for orders of excess products and components. The Company reviews long-lived assets, including capital assets held at its suppliers' facilities and inventory prepayments, for impairment whenever events or circumstances indicate the assets may not be recoverable. If the Company determines that an impairment has occurred, it records a write-down equal to the amount by which the carrying value of the asset exceeds its fair value. Although the Company believes its inventory, capital assets, inventory prepayments and other assets and purchase commitments are currently recoverable, there can be no assurance the Company will not incur write-downs, fees, impairments and other charges given the rapid and unpredictable pace of product obsolescence in the industries in which the Company competes.

The Company orders components for its products and builds inventory in advance of product announcements and shipments. Manufacturing purchase obligations cover the Company's forecasted component and manufacturing requirements, typically for periods up to 150 days. Because the Company's markets are volatile, competitive and subject to rapid technology and price changes, there is a risk the Company will forecast incorrectly and order or produce excess or insufficient amounts of components or products, or not fully utilize firm purchase commitments.

The Company relies on access to third-party intellectual property, which may not be available to the Company on commercially reasonable terms or at all.

The Company's products and services are designed to include intellectual property owned by third parties, which requires licenses from those third parties. In addition, because of technological changes in the industries in which the Company currently competes or in the future may compete, current extensive patent coverage and the rapid rate of issuance of new patents, the Company's products and services may unknowingly infringe existing patents or intellectual property rights of others. From time to time, the Company has been notified that it may be infringing certain patents or other intellectual property rights of third parties. Based on experience and industry practice, the Company believes licenses to such third-party intellectual property can generally be obtained on commercially reasonable terms. However, there can be no assurance the necessary licenses can be obtained on commercially reasonable terms or at all. Failure to obtain the right to use third-party intellectual property, or to use such intellectual property on commercially reasonable terms, can preclude the Company from selling certain products or services, or otherwise have a material adverse impact on the Company's business, results of operations and financial condition.

The Company's future performance depends in part on support from third-party software developers.

The Company believes decisions by customers to purchase its hardware products depend in part on the availability of third-party software applications and services. There can be no assurance third-party developers will continue to develop and maintain software applications and services for the Company's products. If third-party software applications and services cease to be developed and maintained for the Company's products, customers may choose not to buy the Company's products.

The Company believes the availability of third-party software applications and services for its products depends in part on the developers' perception and analysis of the relative benefits of developing, maintaining and upgrading such software and services for the Company's products compared to competitors' platforms, such as Android for smartphones and tablets, Windows for personal computers and tablets, and PlayStation, Nintendo and Xbox for gaming platforms. This analysis may be based on factors such as the market position of the Company and its products, the anticipated revenue that may be generated, expected future growth of product sales, and the costs of developing such applications and services.

The Company's minority market share in the global smartphone, personal computer and tablet markets can make developers less inclined to develop or upgrade software for the Company's products and more inclined to devote their resources to developing and upgrading software for competitors' products with larger market share. When developers focus their efforts on these competing platforms, the availability and quality of applications for the Company's devices can suffer.

The Company relies on the continued availability and development of compelling and innovative software applications for its products. The Company's products and operating systems are subject to rapid technological change, and when third-party developers are unable to or choose not to keep up with this pace of change, their applications can fail to take advantage of these changes to deliver improved customer experiences and can operate incorrectly and can result in dissatisfied customers.

The Company distributes third-party applications for its products through the App Store. For the vast majority of applications, developers keep all of the revenue they generate on the App Store. The Company only retains a commission from sales of applications and sales of digital services or goods within an application. From time to time, the Company has made changes to its App Store, including actions taken in response to competition, market and legal conditions. The Company may make further business changes in the future. New legislative initiatives, such as the proposed European Union ("EU") Digital Markets Act, could, if enacted, require further changes. The Company is also subject to litigation and investigations relating to the App Store, which have resulted in changes to the Company's business practices, and may in the future result in further changes. These changes could include how and to what extent the Company charges developers for access to its platforms and manages distribution of apps outside of the App Store. This could reduce the volume of sales, and the commission that the Company earns on those sales, would decrease. If the rate of the commission that the Company retains on such sales is reduced, or if it is otherwise narrowed in scope or eliminated, the Company's business, results of operations and financial condition could be materially adversely affected.

Failure to obtain or create digital content that appeals to the Company's customers, or to make such content available on commercially reasonable terms, could have a material adverse impact on the Company's business, results of operations and financial condition.

The Company contracts with numerous third parties to offer their digital content to customers. This includes the right to sell, or offer subscriptions to, third-party content, as well as the right to incorporate specific content into the Company's own services. The licensing or other distribution arrangements for this content can be for relatively short time periods and do not guarantee the continuation or renewal of these arrangements on commercially reasonable terms, or at all. Some third-party content providers and distributors currently or in the future may offer competing products and services, and can take actions to make it difficult or impossible for the Company to license or otherwise distribute their content. Other content owners, providers or distributors may seek to limit the Company's access to, or increase the cost of, such content. The Company may be unable to continue to offer a wide variety of content at commercially reasonable prices with acceptable usage rules.

The Company also produces its own digital content, which can be costly to produce due to intense and increasing competition for talent, content and subscribers, and may fail to appeal to the Company's customers. The COVID-19 pandemic has also caused additional restrictions on production and increased costs for digital content.

Some third-party digital content providers require the Company to provide digital rights management and other security solutions. If requirements change, the Company may have to develop or license new technology to provide these solutions. There can be no assurance the Company will be able to develop or license such solutions at a reasonable cost and in a timely manner.

The Company's success depends largely on the continued service and availability of highly skilled employees, including key personnel.

Much of the Company's future success depends on the continued availability and service of key personnel, including its Chief Executive Officer, executive team and other highly skilled employees. Experienced personnel in the technology industry are in high demand and competition for their talents is intense, especially in Silicon Valley, where most of the Company's key personnel are located. The Company believes that its distinctive and inclusive culture is a significant driver of its success. If the Company is unable to nurture and maintain its culture, it could adversely affect the Company's ability to recruit and retain highly skilled employees and materially adversely affect the Company's business, results of operations and financial condition.

The Company depends on the performance of carriers, wholesalers, retailers and other resellers.

The Company distributes its products through cellular network carriers, wholesalers, retailers and resellers, many of whom distribute products from competing manufacturers. The Company also sells its products and resells third-party products in most of its major markets directly to consumers, small and mid-sized businesses, and education, enterprise and government customers through its retail and online stores and its direct sales force.

Some carriers providing cellular network service for the Company's products offer financing, installment payment plans or subsidies for users' purchases of the device. There can be no assurance such offers will be continued at all or in the same amounts.

The Company has invested and will continue to invest in programs to enhance reseller sales, including staffing selected resellers' stores with Company employees and contractors, and improving product placement displays. These programs can require a substantial investment while not assuring return or incremental sales. The financial condition of these resellers could weaken, these resellers could stop distributing the Company's products, or uncertainty regarding demand for some or all of the Company's products could cause resellers to reduce their ordering and marketing of the Company's products.

The Company's business and reputation are impacted by information technology system failures and network disruptions.

The Company and its global supply chain are exposed to information technology system failures or network disruptions caused by natural disasters, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, physical or electronic break-ins, ransomware or other cybersecurity incidents, or other events or disruptions. System redundancy and other continuity measures may be ineffective or inadequate, and the Company's or its vendors' business continuity and disaster recovery planning may not be sufficient for all eventualities. Such failures or disruptions can adversely impact the Company's business by, among other things, preventing access to the Company's online services, interfering with customer transactions or impeding the manufacturing and shipping of the Company's products. These events could materially adversely affect the Company's business, reputation, results of operations and financial condition.

Losses or unauthorized access to or releases of confidential information, including personal information, could subject the Company to significant reputational, financial, legal and operational consequences.

The Company's business requires it to use and store confidential information, including personal information, with respect to the Company's customers and employees. The Company devotes significant resources to network and data security, including through the use of encryption and other security measures intended to protect its systems and data. But these measures cannot provide absolute security, and losses or unauthorized access to or releases of confidential information occur and could materially adversely affect the Company's business, reputation, results of operations and financial condition.

The Company's business also requires it to share confidential information with suppliers and other third parties. The Company relies on global suppliers that are also exposed to ransomware and other malicious attacks that can disrupt business operations. Although the Company takes steps to secure confidential information that is provided to or accessible by third parties working on the Company's behalf, such measures are not always effective and losses or unauthorized access to or releases of confidential information occur. Such incidents and other malicious attacks could materially adversely affect the Company's business, reputation, results of operations and financial condition.

The Company experiences malicious attacks and other attempts to gain unauthorized access to its systems on a regular basis. These attacks seek to compromise the confidentiality, integrity or availability of confidential information or disrupt normal business operations, and could, among other things, impair the Company's ability to attract and retain customers for its products and services, impact the price of the Company's stock, materially damage commercial relationships, and expose the Company to litigation or government investigations, which could result in penalties, fines or judgments against the Company. Globally, attacks are expected to continue accelerating in both frequency and sophistication with increasing use by actors of tools and techniques that are designed to circumvent controls, avoid detection, and remove or obfuscate forensic evidence, all of which hinders the Company's ability to identify, investigate and recover from incidents.

Although malicious attacks perpetrated to gain access to confidential information, including personal information, affect many companies across various industries, the Company is at a relatively greater risk of being targeted because of its high profile and the value of the confidential information it creates, owns, manages, stores and processes.

The Company has implemented systems and processes intended to secure its information technology systems and prevent unauthorized access to or loss of sensitive data, and mitigate the impact of unauthorized access, including through the use of encryption and authentication technologies. As with all companies, these security measures may not be sufficient for all eventualities and may be vulnerable to hacking, ransomware attacks, employee error, malfeasance, system error, faulty password management or other irregularities. For example, third parties can fraudulently induce the Company's or its vendors' employees or customers into disclosing user names, passwords or other sensitive information, which can, in turn, be used for unauthorized access to the Company's or its vendors' systems and services. To help protect customers and the Company, the Company deploys and makes available technologies like multifactor authentication, monitors its services and systems for unusual activity and may freeze accounts under suspicious circumstances, which, among other things, can result in the delay or loss of customer orders or impede customer access to the Company's products and services.

While the Company maintains insurance coverage that is intended to address certain aspects of data security risks, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

Investment in new business strategies and acquisitions could disrupt the Company's ongoing business, present risks not originally contemplated and adversely affect the Company's business, reputation, results of operations and financial condition.

The Company has invested, and in the future may invest, in new business strategies or acquisitions. Such endeavors may involve significant risks and uncertainties, including distraction of management from current operations, greater-than-expected liabilities and expenses, economic, political, legal and regulatory challenges associated with operating in new businesses, regions or countries, inadequate return on capital, potential impairment of tangible and intangible assets, and significant write-offs. Investment and acquisition transactions are exposed to additional risks, including failing to obtain required regulatory approvals on a timely basis or at all, or the imposition of onerous conditions that could delay or prevent the Company from completing a transaction or otherwise limit the Company's ability to fully realize the anticipated benefits of a transaction. These new ventures are inherently risky and may not be successful. The failure of any significant investment could adversely affect the Company's business, reputation, results of operations and financial condition.

The Company's retail stores have required and will continue to require a substantial investment and commitment of resources and are subject to numerous risks and uncertainties.

The Company's retail stores have required substantial investment in equipment and leasehold improvements, information systems, inventory and personnel. The Company also has entered into substantial lease commitments for retail space. Certain stores have been designed and built to serve as high-profile venues to promote brand awareness. Because of their unique design elements, locations and size, these stores require substantially more investment than the Company's more typical retail stores. Due to the high cost structure associated with the Company's retail stores, a decline in sales or the closure or poor performance of an individual store or multiple stores, including as a result of protective public safety measures in response to the COVID-19 pandemic, could result in significant lease termination costs, write-offs of equipment and leasehold improvements and severance costs.

The Company's retail operations are subject to many factors that pose risks and uncertainties and could adversely impact the Company's business, results of operations and financial condition, including macro-economic factors that could have an adverse effect on general retail activity. Other factors include the Company's ability to: manage costs associated with retail store construction and operation; manage relationships with existing retail partners; manage costs associated with fluctuations in the value of retail inventory; and obtain and renew leases in quality retail locations at a reasonable cost.

Legal and Regulatory Compliance Risks

The Company's business, results of operations and financial condition could be adversely impacted by unfavorable results of legal proceedings or government investigations.

The Company is subject to various claims, legal proceedings and government investigations that have arisen in the ordinary course of business and have not yet been fully resolved, and new matters may arise in the future. In addition, agreements entered into by the Company sometimes include indemnification provisions which can subject the Company to costs and damages in the event of a claim against an indemnified third party. The number of claims, legal proceedings and government investigations involving the Company, and the alleged magnitude of such claims, proceedings and government investigations, has generally increased over time and may continue to increase.

The Company has faced and continues to face a significant number of patent claims relating to its cellular-enabled products, and new claims may arise in the future. For example, technology and other patent-holding companies frequently assert their patents and seek royalties and often enter into litigation based on allegations of patent infringement or other violations of intellectual property rights. The Company is vigorously defending infringement actions in courts in several U.S. jurisdictions, as well as internationally in various countries. The plaintiffs in these actions frequently seek injunctions and substantial damages.

Regardless of the merit of particular claims, defending against litigation or responding to government investigations can be expensive, time-consuming, disruptive to the Company's operations and distracting to management. In recognition of these considerations, the Company may enter into agreements or other arrangements to settle litigation and resolve such challenges. There can be no assurance such agreements can be obtained on acceptable terms or that litigation will not occur. These agreements can also significantly increase the Company's cost of sales and operating expenses and require the Company to change its business practices and limit the Company's ability to offer certain products and services.

Except as described in Part I, Item 3 of this Form 10-K under the heading "Legal Proceedings" and in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies," in the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims.

The outcome of litigation or government investigations is inherently uncertain. If one or more legal matters were resolved against the Company or an indemnified third party in a reporting period for amounts above management's expectations, the Company's results of operations and financial condition for that reporting period could be materially adversely affected. Further, such an outcome can result in significant compensatory, punitive or trebled monetary damages, disgorgement of revenue or profits, remedial corporate measures or injunctive relief against the Company, and can require the Company to change its business practices and limit the Company's ability to offer certain products and services, all of which could materially adversely affect the Company's business, results of operations and financial condition.

While the Company maintains insurance coverage for certain types of claims, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

The Company is subject to complex and changing laws and regulations worldwide, which exposes the Company to potential liabilities, increased costs and other adverse effects on the Company's business.

The Company's global operations are subject to complex and changing laws and regulations on subjects, including antitrust; privacy, data security and data localization; consumer protection; advertising, sales, billing and e-commerce; product liability; intellectual property ownership and infringement; digital platforms; Internet, telecommunications, and mobile communications; media, television, film and digital content; availability of third-party software applications and services; labor and employment; anticorruption; import, export and trade; foreign exchange controls and cash repatriation restrictions; anti-money laundering; foreign ownership and investment; tax; and environmental, health and safety, including electronic waste, recycling, and climate change.

Compliance with these laws and regulations is onerous and expensive, increasing the cost of conducting the Company's global operations. Changes to laws and regulations can adversely affect the Company's business by increasing the Company's costs, limiting the Company's ability to offer a product or service to customers, requiring changes to the Company's supply chain and business practices or otherwise making the Company's products and services less attractive to customers. The Company has implemented policies and procedures designed to ensure compliance with applicable laws and regulations, but there can be no assurance the Company's employees, contractors or agents will not violate such laws and regulations or the Company's policies and procedures. If the Company is found to have violated laws and regulations, it could materially adversely affect the Company's business, reputation, results of operations and financial condition. Regulatory changes and other actions that materially adversely affect the Company's business may be announced with little or no advance notice and the Company may not be able to effectively mitigate all adverse impacts from such measures.

The technology industry, including, in some instances, the Company, is subject to intense media, political and regulatory scrutiny, which exposes the Company to increasing regulation, government investigations, legal actions and penalties.

From time to time, the Company has made changes to its App Store, including actions taken in response to competition, market and legal conditions. The Company may make further business changes in the future. New legislative initiatives, such as the proposed EU Digital Markets Act, could, if enacted, require further changes. These changes could include how and to what extent the Company charges developers for access to its platforms and manages distribution of apps outside of the App Store.

The Company is also currently subject to antitrust investigations in various jurisdictions around the world, which can result in legal proceedings and claims against the Company that could, individually or in the aggregate, have a materially adverse impact on the Company's business, results of operations and financial condition. For example, the Company is the subject of investigations in Europe and other jurisdictions relating to App Store terms and conditions. If such investigations result in adverse findings against the Company, the Company could be exposed to significant fines and may be required to make changes to its App Store business, all of which could materially adversely affect the Company's business, results of operations and financial condition. The Company is also subject to litigation relating to the App Store, which has resulted in changes to the Company's business practices, and may in the future result in further changes.

Further, the Company has commercial relationships with other companies in the technology industry that are or may become subject to investigations and litigation that, if resolved against those other companies, could adversely affect the Company's commercial relationships with those business partners and materially adversely affect the Company's business, results of operations and financial condition. For example, the Company earns revenue from licensing arrangements with other companies to offer their search services on the Company's platforms and apps, and certain of these arrangements are currently subject to government investigations and legal proceedings.

There can be no assurance the Company's business will not be materially adversely affected, individually or in the aggregate, by the outcomes of such investigations, litigation or changes to laws and regulations in the future. Changes to the Company's business practices to comply with new laws and regulations or in connection with other legal proceedings could negatively impact the reputation of the Company's products for privacy and security and otherwise adversely affect the experience for users of the Company's products and services, and result in harm to the Company's reputation, loss of competitive advantage, poor market acceptance, reduced demand for products and services, and lost sales.

The Company's business is subject to a variety of U.S. and international laws, rules, policies and other obligations regarding data protection.

The Company is subject to federal, state and international laws relating to the collection, use, retention, security and transfer of various types of personal information. In many cases, these laws apply not only to third-party transactions, but also restrict transfers of personal information among the Company and its international subsidiaries. Several jurisdictions have passed laws in this area, and additional jurisdictions are considering imposing additional restrictions or have laws that are pending. These laws continue to develop and may be inconsistent from jurisdiction to jurisdiction. Complying with emerging and changing requirements causes the Company to incur substantial costs and has required and may in the future require the Company to change its business practices. Noncompliance could result in significant penalties or legal liability.

The Company makes statements about its use and disclosure of personal information through its privacy policy, information provided on its website, press statements and other privacy notices provided to customers. Any failure by the Company to comply with these public statements or with other federal, state or international privacy or data protection laws and regulations could result in inquiries or proceedings against the Company by governmental entities or others. In addition to reputational impacts, penalties could include ongoing audit requirements and significant legal liability.

In addition to the risks generally relating to the collection, use, retention, security and transfer of personal information, the Company is also subject to specific obligations relating to information considered sensitive under applicable laws, such as health data, financial data and biometric data. Health data is subject to additional privacy, security and breach notification requirements, and the Company is subject to audit by governmental authorities regarding the Company's compliance with these obligations. If the Company fails to adequately comply with these rules and requirements, or if health data is handled in a manner not permitted by law or under the Company's agreements with healthcare institutions, the Company can be subject to litigation or government investigations, and can be liable for associated investigatory expenses, and can also incur significant fees or fines.

Financial data, such as payment card data, is also subject to additional requirements. Under payment card rules and obligations, if cardholder information is potentially compromised, the Company can be liable for associated investigatory expenses and can also incur significant fees or fines if the Company fails to follow payment card industry data security standards. The Company could also experience a significant increase in payment card transaction costs or lose the ability to process payment cards if it fails to follow payment card industry data security standards, which would materially adversely affect the Company's business, reputation, results of operations and financial condition.

Financial Risks***The Company expects its quarterly net sales and results of operations to fluctuate.***

The Company's profit margins vary across its products, services, geographic segments and distribution channels. For example, the gross margins on the Company's products and services vary significantly and can change over time. The Company's gross margins are subject to volatility and downward pressure due to a variety of factors, including: continued industry-wide global product pricing pressures and product pricing actions that the Company may take in response to such pressures; increased competition; the Company's ability to effectively stimulate demand for certain of its products and services; compressed product life cycles; potential increases in the cost of components, outside manufacturing services, and developing, acquiring and delivering content for the Company's services; the Company's ability to manage product quality and warranty costs effectively; shifts in the mix of products and services, or in the geographic, currency or channel mix, including to the extent that regulatory changes require the Company to modify its product and service offerings; fluctuations in foreign exchange rates; and the introduction of new products or services, including new products or services with higher cost structures. These and other factors could have a materially adverse impact on the Company's results of operations and financial condition.

The Company has historically experienced higher net sales in its first quarter compared to other quarters in its fiscal year due in part to seasonal holiday demand. Additionally, new product and service introductions can significantly impact net sales, cost of sales and operating expenses. Further, the Company generates a significant portion of its net sales from a single product and a decline in demand for that product could significantly impact quarterly net sales. The Company could also be subject to unexpected developments, such as lower-than-anticipated demand for the Company's products or services, issues with new product or service introductions, information technology system failures or network disruptions, or failure of one of the Company's logistics, components supply, or manufacturing partners.

The Company's financial performance is subject to risks associated with changes in the value of the U.S. dollar relative to local currencies.

The Company's primary exposure to movements in foreign currency exchange rates relates to non-U.S. dollar-denominated sales, cost of sales and operating expenses worldwide. Gross margins on the Company's products in foreign countries and on products that include components obtained from foreign suppliers could be materially adversely affected by foreign currency exchange rate fluctuations.

The weakening of foreign currencies relative to the U.S. dollar adversely affects the U.S. dollar value of the Company's foreign currency-denominated sales and earnings, and generally leads the Company to raise international pricing, potentially reducing demand for the Company's products. In some circumstances, for competitive or other reasons, the Company may decide not to raise international pricing to offset the U.S. dollar's strengthening, which would adversely affect the U.S. dollar value of the gross margins the Company earns on foreign currency-denominated sales.

Conversely, a strengthening of foreign currencies relative to the U.S. dollar, while generally beneficial to the Company's foreign currency-denominated sales and earnings, could cause the Company to reduce international pricing and incur losses on its foreign currency derivative instruments, thereby limiting the benefit. Additionally, strengthening of foreign currencies may increase the Company's cost of product components denominated in those currencies, thus adversely affecting gross margins.

The Company uses derivative instruments, such as foreign currency forward and option contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. The use of such hedging activities may not be effective to offset any, or more than a portion, of the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place.

The Company is exposed to credit risk and fluctuations in the values of its investment portfolio.

The Company's investments can be negatively affected by changes in liquidity, credit deterioration, financial results, market and economic conditions, political risk, sovereign risk, interest rate fluctuations or other factors. As a result, the value and liquidity of the Company's cash, cash equivalents, and marketable and non-marketable securities may fluctuate substantially. Therefore, although the Company has not realized any significant losses on its cash, cash equivalents, and marketable and non-marketable securities, future fluctuations in their value could result in significant losses and could have a material adverse impact on the Company's results of operations and financial condition.

The Company is exposed to credit risk on its trade accounts receivable, vendor non-trade receivables and prepayments related to long-term supply agreements, and this risk is heightened during periods when economic conditions worsen.

The Company distributes its products through third-party cellular network carriers, wholesalers, retailers and resellers. The Company also sells its products directly to small and mid-sized businesses and education, enterprise and government customers. A substantial majority of the Company's outstanding trade receivables are not covered by collateral, third-party bank support or financing arrangements, or credit insurance, and a significant portion of the Company's trade receivables can be concentrated within cellular network carriers or other resellers. The Company's exposure to credit and collectibility risk on its trade receivables is higher in certain international markets and its ability to mitigate such risks may be limited. The Company also has unsecured vendor non-trade receivables resulting from purchases of components by outsourcing partners and other vendors that manufacture subassemblies or assemble final products for the Company. In addition, the Company has made prepayments associated with long-term supply agreements to secure supply of inventory components. As of September 25, 2021, the Company's vendor non-trade receivables and prepayments related to long-term supply agreements were concentrated among a few individual vendors located primarily in Asia. While the Company has procedures to monitor and limit exposure to credit risk on its trade and vendor non-trade receivables, as well as long-term prepayments, there can be no assurance such procedures will effectively limit its credit risk and avoid losses.

The Company is subject to changes in tax rates, the adoption of new U.S. or international tax legislation and exposure to additional tax liabilities.

The Company is subject to taxes in the U.S. and numerous foreign jurisdictions, including Ireland, where a number of the Company's subsidiaries are organized. Due to economic and political conditions, tax laws and tax rates for income taxes and other non-income taxes in various jurisdictions may be subject to significant change. The Company's effective tax rates are affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, the introduction of new taxes, or changes in tax laws or their interpretation, including in the U.S. and Ireland.

The Company is also subject to the examination of its tax returns and other tax matters by the U.S. Internal Revenue Service and other tax authorities and governmental bodies. The Company regularly assesses the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of its provision for taxes. There can be no assurance as to the outcome of these examinations. If the Company's effective tax rates were to increase, particularly in the U.S. or Ireland, or if the ultimate determination of the Company's taxes owed is for an amount in excess of amounts previously accrued, the Company's business, results of operations and financial condition could be materially adversely affected.

General Risks***The price of the Company's stock is subject to volatility.***

The Company's stock has experienced substantial price volatility in the past and may continue to do so in the future. Additionally, the Company, the technology industry and the stock market as a whole have, from time to time, experienced extreme stock price and volume fluctuations that have affected stock prices in ways that may have been unrelated to these companies' operating performance. Price volatility may cause the average price at which the Company repurchases its stock in a given period to exceed the stock's price at a given point in time. The Company believes the price of its stock should reflect expectations of future growth and profitability. The Company also believes the price of its stock should reflect expectations that its cash dividend will continue at current levels or grow, and that its current share repurchase program will be fully consummated. Future dividends are subject to declaration by the Company's Board of Directors, and the Company's share repurchase program does not obligate it to acquire any specific number of shares. If the Company fails to meet expectations related to future growth, profitability, dividends, share repurchases or other market expectations, the price of the Company's stock may decline significantly, which could have a material adverse impact on investor confidence and employee retention.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company's headquarters are located in Cupertino, California. As of September 25, 2021, the Company owned or leased facilities and land for corporate functions, R&D, data centers, retail and other purposes at locations throughout the U.S. and in various places outside the U.S. The Company believes its existing facilities and equipment, which are used by all reportable segments, are in good operating condition and are suitable for the conduct of its business.

Item 3. Legal Proceedings

The Company is subject to legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business. The Company's material legal proceedings are described below and in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies."

The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. The Company settled certain matters during the fourth quarter of 2021 that did not individually or in the aggregate have a material impact on the Company's financial condition or operating results.

Epic Games

Epic Games, Inc. ("Epic") filed a lawsuit in the U.S. District Court for the Northern District of California (the "Northern California District Court") against the Company alleging violations of federal and state antitrust laws and California's unfair competition law based upon the Company's operation of its App Store. The Company filed a counterclaim for breach of contract. On September 10, 2021, the Northern California District Court ruled in favor of the Company with respect to nine out of the ten counts included in Epic's claim, and in favor of the Company with respect to the Company's claims for breach of contract. The Northern California District Court found that certain provisions of the Company's App Store Review Guidelines violate California's unfair competition law and issued an injunction. Epic appealed the decision. The Company filed a cross-appeal and is seeking a stay of the injunction pending appeal.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The Company's common stock is traded on The Nasdaq Stock Market LLC under the symbol AAPL.

Holders

As of October 15, 2021, there were 23,502 shareholders of record.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Share repurchase activity during the three months ended September 25, 2021 was as follows (in millions, except number of shares, which are reflected in thousands, and per share amounts):

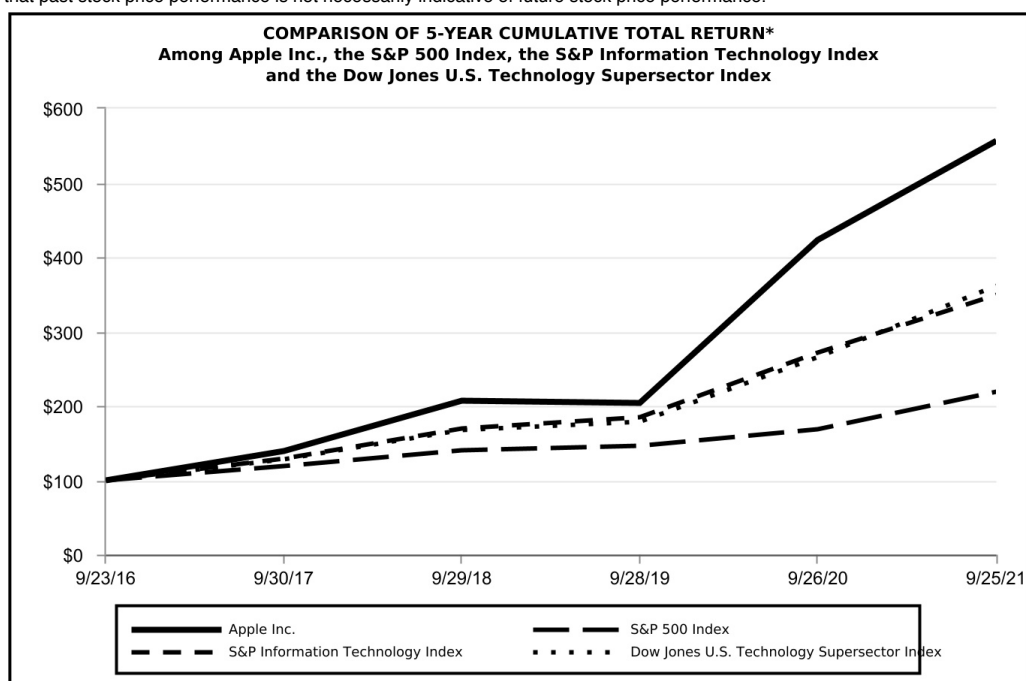
Periods	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs ⁽¹⁾
June 27, 2021 to July 31, 2021:				
Open market and privately negotiated purchases	59,216	\$ 143.54	59,216	
August 1, 2021 to August 28, 2021:				
May 2021 ASR	4,921	⁽²⁾	4,921	
Open market and privately negotiated purchases	42,343	\$ 147.61	42,343	
August 29, 2021 to September 25, 2021:				
Open market and privately negotiated purchases	35,041	\$ 149.81	35,041	
Total	<u>141,521</u>			<u>\$ 60,851</u>

(1) As of September 25, 2021, the Company was authorized to purchase up to \$315 billion of the Company's common stock under a share repurchase program announced on April 28, 2021 (the "Program"), of which \$254.1 billion had been utilized. The remaining \$60.9 billion in the table represents the amount available to repurchase shares under the Program as of September 25, 2021. The Program does not obligate the Company to acquire any specific number of shares. Under the Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act.

(2) In May 2021, the Company entered into an accelerated share repurchase agreement ("ASR") to purchase up to \$5.0 billion of the Company's common stock. In August 2021, the purchase period for this ASR ended and an additional 5 million shares were delivered and retired. In total, 36 million shares were delivered under this ASR at an average repurchase price of \$137.20.

Company Stock Performance

The following graph shows a comparison of cumulative total shareholder return, calculated on a dividend-reinvested basis, for the Company, the S&P 500 Index, the S&P Information Technology Index and the Dow Jones U.S. Technology Supersector Index for the five years ended September 25, 2021. The graph assumes \$100 was invested in each of the Company's common stock, the S&P 500 Index, the S&P Information Technology Index and the Dow Jones U.S. Technology Supersector Index as of the market close on September 23, 2016. Note that past stock price performance is not necessarily indicative of future stock price performance.



* \$100 invested on September 23, 2016 in stock or index, including reinvestment of dividends. Data points are the last day of each fiscal year for the Company's common stock and September 30th for indexes.

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	September 2016	September 2017	September 2018	September 2019	September 2020	September 2021
Apple Inc.	\$ 100	\$ 139	\$ 207	\$ 204	\$ 422	\$ 556
S&P 500 Index	\$ 100	\$ 119	\$ 140	\$ 146	\$ 168	\$ 218
S&P Information Technology Index	\$ 100	\$ 129	\$ 169	\$ 184	\$ 271	\$ 349
Dow Jones U.S. Technology Supersector Index	\$ 100	\$ 128	\$ 168	\$ 178	\$ 265	\$ 362

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with the consolidated financial statements and accompanying notes included in Part II, Item 8 of this Form 10-K. This section of this Form 10-K generally discusses 2021 and 2020 items and year-to-year comparisons between 2021 and 2020. Discussions of 2019 items and year-to-year comparisons between 2020 and 2019 are not included in this Form 10-K, and can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended September 26, 2020.

Fiscal Year Highlights*COVID-19 Update*

The COVID-19 pandemic has had, and continues to have, a significant impact around the world, prompting governments and businesses to take unprecedented measures, such as restrictions on travel and business operations, temporary closures of businesses, and quarantine and shelter-in-place orders. The COVID-19 pandemic has at times significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets. The COVID-19 pandemic and the measures taken by many countries in response have affected and could in the future materially impact the Company's business, results of operations and financial condition, as well as the price of the Company's stock.

During 2021, aspects of the Company's business continued to be affected by the COVID-19 pandemic, with many of the Company's retail stores, as well as channel partner points of sale, temporarily closed at various times, and a significant number of the Company's employees working remotely. The Company has reopened all of its retail stores and substantially all of its other facilities, subject to operating restrictions to protect public health and the health and safety of employees and customers, and it continues to work on safely reopening the remainder of its facilities, subject to local rules and regulations. During the fourth quarter of 2021, certain of the Company's component suppliers and logistical service providers experienced disruptions, resulting in supply shortages that affected sales worldwide. Similar disruptions could occur in the future.

The extent of the continuing impact of the COVID-19 pandemic on the Company's operational and financial performance is uncertain and will depend on many factors outside the Company's control, including the timing, extent, trajectory and duration of the pandemic, the emergence of new variants, the development, availability, distribution and effectiveness of vaccines and treatments, the imposition of protective public safety measures, and the impact of the pandemic on the global economy and demand for consumer products. Refer to Part I, Item 1A of this Form 10-K under the heading "Risk Factors" for more information.

Fiscal 2021 Highlights

Total net sales increased 33% or \$91.3 billion during 2021 compared to 2020, driven by growth in all Products and Services categories. Year-over-year net sales during 2021 also grew in each of the Company's reportable segments.

In April 2021, the Company announced an increase to its current share repurchase program authorization from \$225 billion to \$315 billion and raised its quarterly dividend from \$0.205 to \$0.22 per share beginning in May 2021. During 2021, the Company repurchased \$85.5 billion of its common stock and paid dividends and dividend equivalents of \$14.5 billion.

Products and Services Performance

The following table shows net sales by category for 2021, 2020 and 2019 (dollars in millions):

	2021	Change	2020	Change	2019
Net sales by category:					
iPhone ⁽¹⁾	\$ 191,973	39 %	\$ 137,781	(3)%	\$ 142,381
Mac ⁽¹⁾	35,190	23 %	28,622	11 %	25,740
iPad ⁽¹⁾	31,862	34 %	23,724	11 %	21,280
Wearables, Home and Accessories ⁽¹⁾⁽²⁾	38,367	25 %	30,620	25 %	24,482
Services ⁽³⁾	68,425	27 %	53,768	16 %	46,291
Total net sales	<u>\$ 365,817</u>	<u>33 %</u>	<u>\$ 274,515</u>	<u>6 %</u>	<u>\$ 260,174</u>

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare, cloud, digital content, payment and other services. Services net sales also include amortization of the deferred value of services bundled in the sales price of certain products.

iPhone

iPhone net sales increased during 2021 compared to 2020 due primarily to higher net sales from the Company's new iPhone models launched in the first quarter and fourth quarter of 2021 and a favorable mix of iPhone sales.

Mac

Mac net sales increased during 2021 compared to 2020 due primarily to higher net sales of MacBook Air, MacBook Pro and iMac.

iPad

iPad net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPad Air and iPad Pro.

Wearables, Home and Accessories

Wearables, Home and Accessories net sales increased during 2021 compared to 2020 due primarily to higher net sales of accessories and Apple Watch.

Services

Services net sales increased during 2021 compared to 2020 due primarily to higher net sales from advertising, the App Store and cloud services.

Segment Operating Performance

The Company manages its business primarily on a geographic basis. The Company's reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company's other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company's customers and distribution partners and the unique market dynamics of each geographic region. Further information regarding the Company's reportable segments can be found in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 11, "Segment Information and Geographic Data."

The following table shows net sales by reportable segment for 2021, 2020 and 2019 (dollars in millions):

	2021	Change	2020	Change	2019
Net sales by reportable segment:					
Americas	\$ 153,306	23 %	\$ 124,556	7 %	\$ 116,914
Europe	89,307	30 %	68,640	14 %	60,288
Greater China	68,366	70 %	40,308	(8)%	43,678
Japan	28,482	33 %	21,418	— %	21,506
Rest of Asia Pacific	26,356	35 %	19,593	10 %	17,788
Total net sales	<u>\$ 365,817</u>	33 %	<u>\$ 274,515</u>	6 %	<u>\$ 260,174</u>

Americas

Americas net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPhone, Services and Mac.

Europe

Europe net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPhone, Services and iPad. The movement of foreign currencies in Europe relative to the U.S. dollar had a net favorable impact on Europe net sales during 2021.

Greater China

Greater China net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPhone, iPad and Services. The strength of the Chinese renminbi relative to the U.S. dollar had a favorable impact on Greater China net sales during 2021.

Japan

Japan net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPhone and Services.

Rest of Asia Pacific

Rest of Asia Pacific net sales increased during 2021 compared to 2020 due primarily to higher net sales of iPhone, iPad and Services. The movement of foreign currencies in the Rest of Asia Pacific relative to the U.S. dollar had a favorable impact on Rest of Asia Pacific net sales during 2021.

Gross Margin

Products and Services gross margin and gross margin percentage for 2021, 2020 and 2019 were as follows (dollars in millions):

	2021	2020	2019
Gross margin:			
Products	\$ 105,126	\$ 69,461	\$ 68,887
Services	47,710	35,495	29,505
Total gross margin	<u>\$ 152,836</u>	<u>\$ 104,956</u>	<u>\$ 98,392</u>
Gross margin percentage:			
Products	35.3 %	31.5 %	32.2 %
Services	69.7 %	66.0 %	63.7 %
Total gross margin percentage	41.8 %	38.2 %	37.8 %

Products Gross Margin

Products gross margin increased during 2021 compared to 2020 due primarily to higher Products volume, a different Products mix and the strength in foreign currencies relative to the U.S. dollar. Products gross margin percentage increased during 2021 compared to 2020 due primarily to a different Products mix, improved leverage and the strength in foreign currencies relative to the U.S. dollar.

Services Gross Margin

Services gross margin increased during 2021 compared to 2020 due primarily to higher Services net sales and a different Services mix. Services gross margin percentage increased during 2021 compared to 2020 due primarily to a different Services mix and improved leverage, partially offset by higher Services costs.

The Company's future gross margins can be impacted by a variety of factors, as discussed in Part I, Item 1A of this Form 10-K under the heading "Risk Factors." As a result, the Company believes, in general, gross margins will be subject to volatility and downward pressure.

Operating Expenses

Operating expenses for 2021, 2020 and 2019 were as follows (dollars in millions):

	2021	Change	2020	Change	2019
Research and development	\$ 21,914	17 %	\$ 18,752	16 %	\$ 16,217
Percentage of total net sales	6 %		7 %		6 %
Selling, general and administrative	\$ 21,973	10 %	\$ 19,916	9 %	\$ 18,245
Percentage of total net sales	6 %		7 %		7 %
Total operating expenses	\$ 43,887	13 %	\$ 38,668	12 %	\$ 34,462
Percentage of total net sales	12 %		14 %		13 %

Research and Development

The year-over-year growth in R&D expense in 2021 was driven primarily by increases in headcount-related expenses, R&D-related professional services and infrastructure-related costs. The Company continues to believe that focused investments in R&D are critical to its future growth and competitive position in the marketplace, and to the development of new and updated products and services that are central to the Company's core business strategy.

Selling, General and Administrative

The year-over-year growth in selling, general and administrative expense in 2021 was driven primarily by increases in headcount-related expenses, variable selling expenses and professional services.

Other Income/(Expense), Net

Other income/(expense), net ("OI&E") for 2021, 2020 and 2019 was as follows (dollars in millions):

	2021	Change	2020	Change	2019
Interest and dividend income	\$ 2,843		\$ 3,763		\$ 4,961
Interest expense	(2,645)		(2,873)		(3,576)
Other income/(expense), net	60		(87)		422
Total other income/(expense), net	\$ 258	(68)%	\$ 803	(56)%	\$ 1,807

The year-over-year decrease in OI&E during 2021 was due primarily to lower interest income and net losses on marketable securities, partially offset by positive fair value adjustments on non-marketable securities and lower interest expense on term debt.

Provision for Income Taxes

Provision for income taxes, effective tax rate and statutory federal income tax rate for 2021, 2020 and 2019 were as follows (dollars in millions):

	2021	2020	2019
Provision for income taxes	\$ 14,527	\$ 9,680	\$ 10,481
Effective tax rate	13.3 %	14.4 %	15.9 %
Statutory federal income tax rate	21 %	21 %	21 %

The Company's effective tax rate for 2021 was lower than the statutory federal income tax rate due primarily to a lower effective tax rate on foreign earnings, tax benefits from share-based compensation and foreign-derived intangible income deductions. The Company's effective tax rate for 2020 was lower than the statutory federal income tax rate due primarily to the lower tax rate on foreign earnings, including the impact of tax settlements, and tax benefits from share-based compensation.

The Company's effective tax rate for 2021 was lower compared to 2020 due primarily to higher tax benefits from foreign-derived intangible income deductions and share-based compensation and the favorable impact of changes in unrecognized tax benefits, partially offset by a one-time adjustment in 2020 of U.S. foreign tax credits in response to regulations issued by the U.S. Department of the Treasury in December 2019.

During 2021, the Company established deferred tax assets ("DTAs") for foreign tax credit carryforwards in Ireland and increased DTAs for R&D tax credit carryforwards in California, which resulted in a combined \$3.5 billion increase in the valuation allowance on the Company's DTAs, with no effect on net income. Management believes it is more likely than not that forecasted income, together with future reversals of existing taxable temporary differences, will be sufficient to realize substantially all of the Company's remaining DTAs.

Liquidity and Capital Resources

The Company believes its balances of cash, cash equivalents and unrestricted marketable securities, which totaled \$172.6 billion as of September 25, 2021, along with cash generated by ongoing operations and continued access to debt markets, will be sufficient to satisfy its cash requirements and capital return program over the next 12 months and beyond.

The Company's material cash requirements include the following contractual and other obligations.

Debt

As of September 25, 2021, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of \$118.1 billion (collectively the "Notes"), with \$9.6 billion payable within 12 months. Future interest payments associated with the Notes total \$39.5 billion, with \$2.9 billion payable within 12 months.

The Company also issues unsecured short-term promissory notes ("Commercial Paper") pursuant to a commercial paper program. As of September 25, 2021, the Company had \$6.0 billion of Commercial Paper outstanding, all of which was payable within 12 months.

Leases

The Company has lease arrangements for certain equipment and facilities, including retail, corporate, manufacturing and data center space. As of September 25, 2021, the Company had fixed lease payment obligations of \$14.6 billion, with \$1.8 billion payable within 12 months.

Manufacturing Purchase Obligations

The Company utilizes several outsourcing partners to manufacture subassemblies for the Company's products and to perform final assembly and testing of finished products. The Company also obtains individual components for its products from a wide variety of individual suppliers. Outsourcing partners acquire components and build product based on demand information supplied by the Company, which typically covers periods up to 150 days. As of September 25, 2021, the Company had manufacturing purchase obligations of \$54.8 billion, with \$54.7 billion payable within 12 months. The Company's manufacturing purchase obligations are primarily noncancelable.

Other Purchase Obligations

The Company's other purchase obligations primarily consist of noncancelable obligations to acquire capital assets, including product tooling and manufacturing process equipment, and noncancelable obligations related to advertising, content creation and Internet and telecommunications services. As of September 25, 2021, the Company had other purchase obligations of \$8.3 billion, with \$4.8 billion payable within 12 months.

Deemed Repatriation Tax Payable

As of September 25, 2021, the balance of the deemed repatriation tax payable imposed by the U.S. Tax Cuts and Jobs Act of 2017 (the "Act") was \$24.6 billion, none of which is payable within 12 months.

In addition to its cash requirements, the Company has a capital return program authorized by the Board of Directors. The Program does not obligate the Company to acquire any specific number of shares. As of September 25, 2021, the Company's quarterly cash dividend was \$0.22 per share. The Company intends to increase its dividend on an annual basis, subject to declaration by the Board of Directors.

Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles ("GAAP") and the Company's discussion and analysis of its financial condition and operating results require the Company's management to make judgments, assumptions and estimates that affect the amounts reported. Note 1, "Summary of Significant Accounting Policies," of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K describes the significant accounting policies and methods used in the preparation of the Company's consolidated financial statements. Management bases its estimates on historical experience and on various other assumptions it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities.

Uncertain Tax Positions

The Company is subject to income taxes in the U.S. and numerous foreign jurisdictions. The evaluation of the Company's uncertain tax positions involves significant judgment in the interpretation and application of GAAP and complex domestic and international tax laws, including the Act and matters related to the allocation of international taxation rights between countries. Although management believes the Company's reserves are reasonable, no assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in the Company's reserves. Reserves are adjusted considering changing facts and circumstances, such as the closing of a tax examination or the refinement of an estimate. Resolution of these uncertainties in a manner inconsistent with management's expectations could have a material impact on the Company's financial condition and operating results.

Legal and Other Contingencies

The Company is subject to various legal proceedings and claims that arise in the ordinary course of business, the outcomes of which are inherently uncertain. The Company records a liability when it is probable that a loss has been incurred and the amount is reasonably estimable, the determination of which requires significant judgment. Resolution of legal matters in a manner inconsistent with management's expectations could have a material impact on the Company's financial condition and operating results.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk**Interest Rate and Foreign Currency Risk Management**

The Company regularly reviews its foreign exchange forward and option positions and interest rate swaps, both on a stand-alone basis and in conjunction with its underlying foreign currency and interest rate exposures. Given the effective horizons of the Company's risk management activities and the anticipatory nature of the exposures, there can be no assurance these positions will offset more than a portion of the financial impact resulting from movements in either foreign exchange or interest rates. Further, the recognition of the gains and losses related to these instruments may not coincide with the timing of gains and losses related to the underlying economic exposures and, therefore, may adversely affect the Company's financial condition and operating results.

Interest Rate Risk

The Company's exposure to changes in interest rates relates primarily to the Company's investment portfolio and outstanding debt. While the Company is exposed to global interest rate fluctuations, the Company's interest income and expense are most sensitive to fluctuations in U.S. interest rates. Changes in U.S. interest rates affect the interest earned on the Company's cash, cash equivalents and marketable securities and the fair value of those securities, as well as costs associated with hedging and interest paid on the Company's debt.

The Company's investment policy and strategy are focused on the preservation of capital and supporting the Company's liquidity requirements. The Company uses a combination of internal and external management to execute its investment strategy and achieve its investment objectives. The Company typically invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. To provide a meaningful assessment of the interest rate risk associated with the Company's investment portfolio, the Company performed a sensitivity analysis to determine the impact a change in interest rates would have on the value of the investment portfolio assuming a 100 basis point parallel shift in the yield curve. Based on investment positions as of September 25, 2021 and September 26, 2020, a hypothetical 100 basis point increase in interest rates across all maturities would result in a \$4.1 billion and \$3.1 billion incremental decline in the fair market value of the portfolio, respectively. Such losses would only be realized if the Company sold the investments prior to maturity.

As of September 25, 2021 and September 26, 2020, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate carrying amount of \$118.7 billion and \$107.4 billion, respectively. The Company has entered, and in the future may enter, into interest rate swaps to manage interest rate risk on its outstanding term debt. Interest rate swaps allow the Company to effectively convert fixed-rate payments into floating-rate payments or floating-rate payments into fixed-rate payments. Gains and losses on term debt are generally offset by the corresponding losses and gains on the related hedging instrument. A 100 basis point increase in market interest rates would cause interest expense on the Company's debt as of September 25, 2021 and September 26, 2020 to increase by \$186 million and \$218 million on an annualized basis, respectively.

Foreign Currency Risk

In general, the Company is a net receiver of currencies other than the U.S. dollar. Accordingly, changes in exchange rates, and in particular a strengthening of the U.S. dollar, will negatively affect the Company's net sales and gross margins as expressed in U.S. dollars. There is a risk that the Company will have to adjust local currency pricing due to competitive pressures when there has been significant volatility in foreign currency exchange rates.

The Company may enter into foreign currency forward and option contracts with financial institutions to protect against foreign exchange risks associated with certain existing assets and liabilities, certain firmly committed transactions, forecasted future cash flows and net investments in foreign subsidiaries. In addition, the Company has entered, and in the future may enter, into foreign currency contracts to partially offset the foreign currency exchange gains and losses on its foreign currency-denominated debt issuances. The Company generally hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months. However, the Company may choose not to hedge certain foreign exchange exposures for a variety of reasons including, but not limited to, accounting considerations or the prohibitive economic cost of hedging particular exposures.

To provide an assessment of the foreign currency risk associated with certain of the Company's foreign currency derivative positions, the Company performed a sensitivity analysis using a value-at-risk ("VAR") model to assess the potential impact of fluctuations in exchange rates. The VAR model consisted of using a Monte Carlo simulation to generate thousands of random market price paths assuming normal market conditions. The VAR is the maximum expected loss in fair value, for a given confidence interval, to the Company's foreign currency derivative positions due to adverse movements in rates. The VAR model is not intended to represent actual losses but is used as a risk estimation and management tool. Forecasted transactions, firm commitments and assets and liabilities denominated in foreign currencies were excluded from the model. Based on the results of the model, the Company estimates with 95% confidence, a maximum one-day loss in fair value of \$550 million as of September 25, 2021, compared to a maximum one-day loss in fair value of \$551 million as of September 26, 2020. Because the Company uses foreign currency instruments for hedging purposes, the losses in fair value incurred on those instruments are generally offset by increases in the fair value of the underlying exposures.

Actual future gains and losses associated with the Company's investment portfolio, debt and derivative positions may differ materially from the sensitivity analyses performed as of September 25, 2021 due to the inherent limitations associated with predicting the timing and amount of changes in interest rates, foreign currency exchange rates and the Company's actual exposures and positions.

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Item 8. Financial Statements and Supplementary Data

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All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes.

Apple Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS

(In millions, except number of shares which are reflected in thousands and per share amounts)

	Years ended		
	September 25, 2021	September 26, 2020	September 28, 2019
Net sales:			
Products	\$ 297,392	\$ 220,747	\$ 213,883
Services	68,425	53,768	46,291
Total net sales	365,817	274,515	260,174
Cost of sales:			
Products	192,266	151,286	144,996
Services	20,715	18,273	16,786
Total cost of sales	212,981	169,559	161,782
Gross margin	152,836	104,956	98,392
Operating expenses:			
Research and development	21,914	18,752	16,217
Selling, general and administrative	21,973	19,916	18,245
Total operating expenses	43,887	38,668	34,462
Operating income	108,949	66,288	63,930
Other income/(expense), net	258	803	1,807
Income before provision for income taxes	109,207	67,091	65,737
Provision for income taxes	14,527	9,680	10,481
Net income	\$ 94,680	\$ 57,411	\$ 55,256
Earnings per share:			
Basic	\$ 5.67	\$ 3.31	\$ 2.99
Diluted	\$ 5.61	\$ 3.28	\$ 2.97
Shares used in computing earnings per share:			
Basic	16,701,272	17,352,119	18,471,336
Diluted	16,864,919	17,528,214	18,595,651

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions)

	Years ended		
	September 25, 2021	September 26, 2020	September 28, 2019
Net income	\$ 94,680	\$ 57,411	\$ 55,256
Other comprehensive income/(loss):			
Change in foreign currency translation, net of tax	501	88	(408)
Change in unrealized gains/losses on derivative instruments, net of tax:			
Change in fair value of derivative instruments	32	79	(661)
Adjustment for net (gains)/losses realized and included in net income	1,003	(1,264)	23
Total change in unrealized gains/losses on derivative instruments	1,035	(1,185)	(638)
Change in unrealized gains/losses on marketable debt securities, net of tax:			
Change in fair value of marketable debt securities	(694)	1,202	3,802
Adjustment for net (gains)/losses realized and included in net income	(273)	(63)	25
Total change in unrealized gains/losses on marketable debt securities	(967)	1,139	3,827
Total other comprehensive income/(loss)	569	42	2,781
Total comprehensive income	\$ 95,249	\$ 57,453	\$ 58,037

See accompanying Notes to Consolidated Financial Statements.

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Apple Inc.

CONSOLIDATED BALANCE SHEETS

(In millions, except number of shares which are reflected in thousands and par value)

	September 25, 2021	September 26, 2020
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 34,940	\$ 38,016
Marketable securities	27,699	52,927
Accounts receivable, net	26,278	16,120
Inventories	6,580	4,061
Vendor non-trade receivables	25,228	21,325
Other current assets	14,111	11,264
Total current assets	134,836	143,713
Non-current assets:		
Marketable securities	127,877	100,887
Property, plant and equipment, net	39,440	36,766
Other non-current assets	48,849	42,522
Total non-current assets	216,166	180,175
Total assets	\$ 351,002	\$ 323,888
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 54,763	\$ 42,296
Other current liabilities	47,493	42,684
Deferred revenue	7,612	6,643
Commercial paper	6,000	4,996
Term debt	9,613	8,773
Total current liabilities	125,481	105,392
Non-current liabilities:		
Term debt	109,106	98,667
Other non-current liabilities	53,325	54,490
Total non-current liabilities	162,431	153,157
Total liabilities	287,912	258,549
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 50,400,000 shares authorized; 16,426,786 and 16,976,763 shares issued and outstanding, respectively	57,365	50,779
Retained earnings	5,562	14,966
Accumulated other comprehensive income/(loss)	163	(406)
Total shareholders' equity	63,090	65,339
Total liabilities and shareholders' equity	\$ 351,002	\$ 323,888

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In millions, except per share amounts)

	Years ended		
	September 25, 2021	September 26, 2020	September 28, 2019
Total shareholders' equity, beginning balances	\$ 65,339	\$ 90,488	\$ 107,147
Common stock and additional paid-in capital:			
Beginning balances	50,779	45,174	40,201
Common stock issued	1,105	880	781
Common stock withheld related to net share settlement of equity awards	(2,627)	(2,250)	(2,002)
Share-based compensation	8,108	6,975	6,194
Ending balances	57,365	50,779	45,174
Retained earnings:			
Beginning balances	14,966	45,898	70,400
Net income	94,680	57,411	55,256
Dividends and dividend equivalents declared	(14,431)	(14,087)	(14,129)
Common stock withheld related to net share settlement of equity awards	(4,151)	(1,604)	(1,029)
Common stock repurchased	(85,502)	(72,516)	(67,101)
Cumulative effects of changes in accounting principles	—	(136)	2,501
Ending balances	5,562	14,966	45,898
Accumulated other comprehensive income/(loss):			
Beginning balances	(406)	(584)	(3,454)
Other comprehensive income/(loss)	569	42	2,781
Cumulative effects of changes in accounting principles	—	136	89
Ending balances	163	(406)	(584)
Total shareholders' equity, ending balances	\$ 63,090	\$ 65,339	\$ 90,488
Dividends and dividend equivalents declared per share or RSU	\$ 0.85	\$ 0.795	\$ 0.75

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In millions)

	Years ended		
	September 25, 2021	September 26, 2020	September 28, 2019
Cash, cash equivalents and restricted cash, beginning balances	\$ 39,789	\$ 50,224	\$ 25,913
Operating activities:			
Net income	94,680	57,411	55,256
Adjustments to reconcile net income to cash generated by operating activities:			
Depreciation and amortization	11,284	11,056	12,547
Share-based compensation expense	7,906	6,829	6,068
Deferred income tax benefit	(4,774)	(215)	(340)
Other	(147)	(97)	(652)
Changes in operating assets and liabilities:			
Accounts receivable, net	(10,125)	6,917	245
Inventories	(2,642)	(127)	(289)
Vendor non-trade receivables	(3,903)	1,553	2,931
Other current and non-current assets	(8,042)	(9,588)	873
Accounts payable	12,326	(4,062)	(1,923)
Deferred revenue	1,676	2,081	(625)
Other current and non-current liabilities	5,799	8,916	(4,700)
Cash generated by operating activities	104,038	80,674	69,391
Investing activities:			
Purchases of marketable securities	(109,558)	(114,938)	(39,630)
Proceeds from maturities of marketable securities	59,023	69,918	40,102
Proceeds from sales of marketable securities	47,460	50,473	56,988
Payments for acquisition of property, plant and equipment	(11,085)	(7,309)	(10,495)
Payments made in connection with business acquisitions, net	(33)	(1,524)	(624)
Purchases of non-marketable securities	(131)	(210)	(1,001)
Proceeds from non-marketable securities	387	92	1,634
Other	(608)	(791)	(1,078)
Cash generated by/(used in) investing activities	(14,545)	(4,289)	45,896
Financing activities:			
Proceeds from issuance of common stock	1,105	880	781
Payments for taxes related to net share settlement of equity awards	(6,556)	(3,634)	(2,817)
Payments for dividends and dividend equivalents	(14,467)	(14,081)	(14,119)
Repurchases of common stock	(85,971)	(72,358)	(66,897)
Proceeds from issuance of term debt, net	20,393	16,091	6,963
Repayments of term debt	(8,750)	(12,629)	(8,805)
Proceeds from/(Repayments of) commercial paper, net	1,022	(963)	(5,977)
Other	(129)	(126)	(105)
Cash used in financing activities	(93,353)	(86,820)	(90,976)
Increase/(Decrease) in cash, cash equivalents and restricted cash	(3,860)	(10,435)	24,311
Cash, cash equivalents and restricted cash, ending balances	\$ 35,929	\$ 39,789	\$ 50,224
Supplemental cash flow disclosure:			
Cash paid for income taxes, net	\$ 25,385	\$ 9,501	\$ 15,263
Cash paid for interest	\$ 2,687	\$ 3,002	\$ 3,423

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

Notes to Consolidated Financial Statements

Note 1 – Summary of Significant Accounting Policies

Basis of Presentation and Preparation

The consolidated financial statements include the accounts of Apple Inc. and its wholly owned subsidiaries (collectively “Apple” or the “Company”). Intercompany accounts and transactions have been eliminated. In the opinion of the Company’s management, the consolidated financial statements reflect all adjustments, which are normal and recurring in nature, necessary for fair financial statement presentation. The preparation of these consolidated financial statements and accompanying notes in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported. Actual results could differ materially from those estimates. Certain prior period amounts in the consolidated financial statements and accompanying notes have been reclassified to conform to the current period’s presentation.

The Company’s fiscal year is the 52- or 53-week period that ends on the last Saturday of September. An additional week is included in the first fiscal quarter every five or six years to realign the Company’s fiscal quarters with calendar quarters. The Company’s fiscal years 2021, 2020 and 2019 spanned 52 weeks each. Unless otherwise stated, references to particular years, quarters, months and periods refer to the Company’s fiscal years ended in September and the associated quarters, months and periods of those fiscal years.

Recently Adopted Accounting Pronouncements

Financial Instruments – Credit Losses

At the beginning of the first quarter of 2021, the Company adopted the Financial Accounting Standards Board’s (the “FASB”) Accounting Standards Update (“ASU”) No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (“ASU 2016-13”), which modifies the measurement of expected credit losses on certain financial instruments. The Company adopted ASU 2016-13 utilizing the modified retrospective transition method. The adoption of ASU 2016-13 did not have a material impact on the Company’s condensed consolidated financial statements.

Advertising Costs

Advertising costs are expensed as incurred and included in selling, general and administrative expenses.

Share-Based Compensation

The Company generally measures share-based compensation based on the closing price of the Company’s common stock on the date of grant, and recognizes expense on a straight-line basis for its estimate of equity awards that will ultimately vest. Further information regarding share-based compensation can be found in Note 9, “Benefit Plans.”

Earnings Per Share

The following table shows the computation of basic and diluted earnings per share for 2021, 2020 and 2019 (net income in millions and shares in thousands):

	2021	2020	2019
Numerator:			
Net income	\$ 94,680	\$ 57,411	\$ 55,256
Denominator:			
Weighted-average basic shares outstanding	16,701,272	17,352,119	18,471,336
Effect of dilutive securities	163,647	176,095	124,315
Weighted-average diluted shares	16,864,919	17,528,214	18,595,651
Basic earnings per share	\$ 5.67	\$ 3.31	\$ 2.99
Diluted earnings per share	\$ 5.61	\$ 3.28	\$ 2.97

The Company applies the treasury stock method to determine the dilutive effect of potentially dilutive securities. Potentially dilutive securities representing 62 million shares of common stock were excluded from the computation of diluted earnings per share for 2019 because their effect would have been antidilutive.

Cash Equivalents and Marketable Securities

All highly liquid investments with maturities of three months or less at the date of purchase are classified as cash equivalents.

The Company's investments in marketable debt securities have been classified and accounted for as available-for-sale. The Company classifies its marketable debt securities as either short-term or long-term based on each instrument's underlying contractual maturity date. Unrealized gains and losses on marketable debt securities classified as available-for-sale are recognized in other comprehensive income/(loss) ("OCI").

The Company's investments in marketable equity securities are classified based on the nature of the securities and their availability for use in current operations. The Company's marketable equity securities are measured at fair value with gains and losses recognized in other income/(expense), net ("OI&E").

The cost of securities sold is determined using the specific identification method.

Inventories

Inventories are measured using the first-in, first-out method.

Property, Plant and Equipment

Depreciation on property, plant and equipment is recognized on a straight-line basis over the estimated useful lives of the assets, which for buildings is the lesser of 40 years or the remaining life of the building; between one and five years for machinery and equipment, including product tooling and manufacturing process equipment; and the shorter of lease term or useful life for leasehold improvements. Capitalized costs related to internal-use software are amortized on a straight-line basis over the estimated useful lives of the assets, which range from five to seven years. Depreciation and amortization expense on property and equipment was \$9.5 billion, \$9.7 billion and \$11.3 billion during 2021, 2020 and 2019, respectively.

Noncash investing activities involving property, plant and equipment resulted in a net decrease to accounts payable and other current liabilities of \$2.9 billion during 2019.

Restricted Cash and Restricted Marketable Securities

The Company considers cash and marketable securities to be restricted when withdrawal or general use is legally restricted. The Company reports restricted cash as other assets in the Consolidated Balance Sheets, and determines current or non-current classification based on the expected duration of the restriction. The Company reports restricted marketable securities as current or non-current marketable securities in the Consolidated Balance Sheets based on the classification of the underlying securities.

Derivative Instruments and Hedging

All derivative instruments are recorded in the Consolidated Balance Sheets at fair value. The accounting treatment for derivative gains and losses is based on intended use and hedge designation.

Gains and losses arising from amounts that are included in the assessment of cash flow hedge effectiveness are initially deferred in accumulated other comprehensive income/(loss) ("AOCI") and subsequently reclassified into earnings when the hedged transaction affects earnings, and in the same line item in the Consolidated Statements of Operations. For options designated as cash flow hedges, the Company excludes time value from the assessment of hedge effectiveness and recognizes it on a straight-line basis over the life of the hedge in the Consolidated Statements of Operations line item to which the hedge relates. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Gains and losses arising from amounts that are included in the assessment of fair value hedge effectiveness are recognized in the Consolidated Statements of Operations line item to which the hedge relates along with offsetting losses and gains related to the change in value of the hedged item. For foreign exchange forward contracts designated as fair value hedges, the Company excludes the forward carry component from the assessment of hedge effectiveness and recognizes it in OI&E on a straight-line basis over the life of the hedge. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Gains and losses arising from changes in the fair values of derivative instruments that are not designated as accounting hedges are recognized in the Consolidated Statements of Operations line items to which the derivative instruments relate.

The Company presents derivative assets and liabilities at their gross fair values in the Consolidated Balance Sheets. The Company classifies cash flows related to derivative instruments as operating activities in the Consolidated Statements of Cash Flows.

Fair Value Measurements

The fair values of the Company's money market funds and certain marketable equity securities are based on quoted prices in active markets for identical assets. The valuation techniques used to measure the fair value of the Company's debt instruments and all other financial instruments, which generally have counterparties with high credit ratings, are based on quoted market prices or model-driven valuations using significant inputs derived from or corroborated by observable market data.

Note 2 – Revenue Recognition

Net sales consist of revenue from the sale of iPhone, Mac, iPad, Services and other products. The Company recognizes revenue at the amount to which it expects to be entitled when control of the products or services is transferred to its customers. Control is generally transferred when the Company has a present right to payment and title and the significant risks and rewards of ownership of products or services are transferred to its customers. For most of the Company's Products net sales, control transfers when products are shipped. For the Company's Services net sales, control transfers over time as services are delivered. Payment for Products and Services net sales is collected within a short period following transfer of control or commencement of delivery of services, as applicable.

The Company records reductions to Products net sales related to future product returns, price protection and other customer incentive programs based on the Company's expectations and historical experience.

For arrangements with multiple performance obligations, which represent promises within an arrangement that are distinct, the Company allocates revenue to all distinct performance obligations based on their relative stand-alone selling prices ("SSPs"). When available, the Company uses observable prices to determine SSPs. When observable prices are not available, SSPs are established that reflect the Company's best estimates of what the selling prices of the performance obligations would be if they were sold regularly on a stand-alone basis. The Company's process for estimating SSPs without observable prices considers multiple factors that may vary depending upon the unique facts and circumstances related to each performance obligation including, where applicable, prices charged by the Company for similar offerings, market trends in the pricing for similar offerings, product-specific business objectives and the estimated cost to provide the performance obligation.

The Company has identified up to three performance obligations regularly included in arrangements involving the sale of iPhone, Mac, iPad and certain other products. The first performance obligation, which represents the substantial portion of the allocated sales price, is the hardware and bundled software delivered at the time of sale. The second performance obligation is the right to receive certain product-related bundled services, which include iCloud®, Siri and Maps. The third performance obligation is the right to receive, on a when-and-if-available basis, future unspecified software upgrades relating to the software bundled with each device. The Company allocates revenue and any related discounts to these performance obligations based on their relative SSPs. Because the Company lacks observable prices for the undelivered performance obligations, the allocation of revenue is based on the Company's estimated SSPs. Revenue allocated to the delivered hardware and bundled software is recognized when control has transferred to the customer, which generally occurs when the product is shipped. Revenue allocated to the product-related bundled services and unspecified software upgrade rights is deferred and recognized on a straight-line basis over the estimated period they are expected to be provided. Cost of sales related to delivered hardware and bundled software, including estimated warranty costs, are recognized at the time of sale. Costs incurred to provide product-related bundled services and unspecified software upgrade rights are recognized as cost of sales as incurred.

For certain long-term service arrangements, the Company has performance obligations for services it has not yet delivered. For these arrangements, the Company does not have a right to bill for the undelivered services. The Company has determined that any unbilled consideration relates entirely to the value of the undelivered services. Accordingly, the Company has not recognized revenue, and has elected not to disclose amounts, related to these undelivered services.

For the sale of third-party products where the Company obtains control of the product before transferring it to the customer, the Company recognizes revenue based on the gross amount billed to customers. The Company considers multiple factors when determining whether it obtains control of third-party products including, but not limited to, evaluating if it can establish the price of the product, retains inventory risk for tangible products or has the responsibility for ensuring acceptability of the product. For third-party applications sold through the App Store and certain digital content sold through the Company's other digital content stores, the Company does not obtain control of the product before transferring it to the customer. Therefore, the Company accounts for such sales on a net basis by recognizing in Services net sales only the commission it retains.

The Company has elected to record revenue net of taxes collected from customers that are remitted to governmental authorities, with the collected taxes recorded within other current liabilities until remitted to the relevant government authority.

Deferred Revenue

As of September 25, 2021 and September 26, 2020, the Company had total deferred revenue of \$11.9 billion and \$10.2 billion, respectively. As of September 25, 2021, the Company expects 64% of total deferred revenue to be realized in less than a year, 26% within one-to-two years, 8% within two-to-three years and 2% in greater than three years.

Disaggregated Revenue

Net sales disaggregated by significant products and services for 2021, 2020 and 2019 were as follows (in millions):

	2021	2020	2019
iPhone ⁽¹⁾	\$ 191,973	\$ 137,781	\$ 142,381
Mac ⁽¹⁾	35,190	28,622	25,740
iPad ⁽¹⁾	31,862	23,724	21,280
Wearables, Home and Accessories ⁽¹⁾⁽²⁾	38,367	30,620	24,482
Services ⁽³⁾	68,425	53,768	46,291
Total net sales ⁽⁴⁾	<u>\$ 365,817</u>	<u>\$ 274,515</u>	<u>\$ 260,174</u>

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare, cloud, digital content, payment and other services. Services net sales also include amortization of the deferred value of services bundled in the sales price of certain products.

(4) Includes \$6.7 billion of revenue recognized in 2021 that was included in deferred revenue as of September 26, 2020, \$5.0 billion of revenue recognized in 2020 that was included in deferred revenue as of September 28, 2019, and \$5.9 billion of revenue recognized in 2019 that was included in deferred revenue as of September 29, 2018.

The Company's proportion of net sales by disaggregated revenue source was generally consistent for each reportable segment in Note 11, "Segment Information and Geographic Data" for 2021, 2020 and 2019.

Note 3 – Financial Instruments**Cash, Cash Equivalents and Marketable Securities**

The following tables show the Company's cash, cash equivalents and marketable securities by significant investment category as of September 25, 2021 and September 26, 2020 (in millions):

2021							
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	\$ 17,305	\$ —	\$ —	\$ 17,305	\$ 17,305	\$ —	\$ —
Level 1 ⁽¹⁾ :							
Money market funds	9,608	—	—	9,608	9,608	—	—
Mutual funds	175	11	(1)	185	—	185	—
Subtotal	9,783	11	(1)	9,793	9,608	185	—
Level 2 ⁽²⁾ :							
Equity securities	1,527	—	(564)	963	—	963	—
U.S. Treasury securities	22,878	102	(77)	22,903	3,596	6,625	12,682
U.S. agency securities	8,949	2	(64)	8,887	1,775	1,930	5,182
Non-U.S. government securities	20,201	211	(101)	20,311	390	3,091	16,830
Certificates of deposit and time deposits	1,300	—	—	1,300	490	810	—
Commercial paper	2,639	—	—	2,639	1,776	863	—
Corporate debt securities	83,883	1,242	(267)	84,858	—	12,327	72,531
Municipal securities	967	14	—	981	—	130	851
Mortgage- and asset-backed securities	20,529	171	(124)	20,576	—	775	19,801
Subtotal	162,873	1,742	(1,197)	163,418	8,027	27,514	127,877
Total ⁽³⁾	\$ 189,961	\$ 1,753	\$ (1,198)	\$ 190,516	\$ 34,940	\$ 27,699	\$ 127,877

2020							
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	\$ 17,773	\$ —	\$ —	\$ 17,773	\$ 17,773	\$ —	\$ —
Level 1 ⁽¹⁾ : Money market funds	2,171	—	—	2,171	2,171	—	—
Level 2 ⁽²⁾ :							
U.S. Treasury securities	28,439	331	—	28,770	8,580	11,972	8,218
U.S. agency securities	8,604	8	—	8,612	2,009	3,078	3,525
Non-U.S. government securities	19,361	275	(186)	19,450	255	3,329	15,866
Certificates of deposit and time deposits	10,399	—	—	10,399	4,043	6,246	110
Commercial paper	11,226	—	—	11,226	3,185	8,041	—
Corporate debt securities	76,937	1,834	(175)	78,596	—	19,687	58,909
Municipal securities	1,001	22	—	1,023	—	139	884
Mortgage- and asset-backed securities	13,520	314	(24)	13,810	—	435	13,375
Subtotal	169,487	2,784	(385)	171,886	18,072	52,927	100,887
Total ⁽³⁾	\$ 189,431	\$ 2,784	\$ (385)	\$ 191,830	\$ 38,016	\$ 52,927	\$ 100,887

(1) Level 1 fair value estimates are based on quoted prices in active markets for identical assets or liabilities.

(2) Level 2 fair value estimates are based on observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

(3) As of September 25, 2021 and September 26, 2020, total marketable securities included \$17.9 billion and \$18.6 billion, respectively, that was restricted from general use, related to the State Aid Decision (refer to Note 5, "Income Taxes") and other agreements.

The Company may sell certain of its marketable debt securities prior to their stated maturities for reasons including, but not limited to, managing liquidity, credit risk, duration and asset allocation. The following table shows the fair value of the Company's non-current marketable debt securities, by contractual maturity, as of September 25, 2021 (in millions):

Due after 1 year through 5 years	\$	83,755
Due after 5 years through 10 years		23,915
Due after 10 years		20,207
Total fair value	\$	<u>127,877</u>

The Company typically invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. Fair values were determined for each individual security in the investment portfolio.

Derivative Instruments and Hedging

The Company may use derivative instruments to partially offset its business exposure to foreign exchange and interest rate risk. However, the Company may choose not to hedge certain exposures for a variety of reasons including, but not limited to, accounting considerations or the prohibitive economic cost of hedging particular exposures. There can be no assurance the hedges will offset more than a portion of the financial impact resulting from movements in foreign exchange or interest rates.

Foreign Exchange Risk

To protect gross margins from fluctuations in foreign currency exchange rates, the Company may enter into forward contracts, option contracts or other instruments, and may designate these instruments as cash flow hedges. The Company generally hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months.

To protect the Company's foreign currency-denominated term debt or marketable securities from fluctuations in foreign currency exchange rates, the Company may enter into forward contracts, cross-currency swaps or other instruments. The Company designates these instruments as either cash flow or fair value hedges. As of September 25, 2021, the Company's hedged term debt- and marketable securities-related foreign currency transactions are expected to be recognized within 21 years.

The Company may also enter into derivative instruments that are not designated as accounting hedges to protect gross margins from certain fluctuations in foreign currency exchange rates, as well as to offset a portion of the foreign currency exchange gains and losses generated by the remeasurement of certain assets and liabilities denominated in non-functional currencies.

Interest Rate Risk

To protect the Company's term debt or marketable securities from fluctuations in interest rates, the Company may enter into interest rate swaps, options or other instruments. The Company designates these instruments as either cash flow or fair value hedges.

The notional amounts of the Company's outstanding derivative instruments as of September 25, 2021 and September 26, 2020 were as follows (in millions):

	2021	2020
Derivative instruments designated as accounting hedges:		
Foreign exchange contracts	\$ 76,475	\$ 57,410
Interest rate contracts	\$ 16,875	\$ 20,700
Derivative instruments not designated as accounting hedges:		
Foreign exchange contracts	\$ 126,918	\$ 88,636

The gross fair values of the Company's derivative assets and liabilities were not material as of September 25, 2021 and September 26, 2020.

The gains and losses recognized in OCI and amounts reclassified from AOCI to net income for the Company's derivative instruments designated as cash flow hedges were not material in 2021, 2020 and 2019.

The carrying amounts of the Company's hedged items in fair value hedges as of September 25, 2021 and September 26, 2020 were as follows (in millions):

	2021	2020
Hedged assets/(liabilities):		
Current and non-current marketable securities	\$ 15,954	\$ 16,270
Current and non-current term debt	\$ (17,857)	\$ (21,033)

The gains and losses on the Company's derivative instruments designated as fair value hedges and the related hedged item adjustments were not material in 2021, 2020 and 2019.

Accounts Receivable

Trade Receivables

The Company has considerable trade receivables outstanding with its third-party cellular network carriers, wholesalers, retailers, resellers, small and mid-sized businesses and education, enterprise and government customers. The Company generally does not require collateral from its customers; however, the Company will require collateral or third-party credit support in certain instances to limit credit risk. In addition, when possible, the Company attempts to limit credit risk on trade receivables with credit insurance for certain customers or by requiring third-party financing, loans or leases to support credit exposure. These credit-financing arrangements are directly between the third-party financing company and the end customer. As such, the Company generally does not assume any recourse or credit risk sharing related to any of these arrangements.

As of both September 25, 2021 and September 26, 2020, the Company had no customers that individually represented 10% or more of total trade receivables. The Company's cellular network carriers accounted for 42% of total trade receivables as of September 25, 2021.

Vendor Non-Trade Receivables

The Company has non-trade receivables from certain of its manufacturing vendors resulting from the sale of components to these vendors who manufacture subassemblies or assemble final products for the Company. The Company purchases these components directly from suppliers. As of September 25, 2021, the Company had three vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 52%, 11% and 11%. As of September 26, 2020, the Company had two vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 57% and 11%.

Note 4 – Consolidated Financial Statement Details

The following tables show the Company's consolidated financial statement details as of September 25, 2021 and September 26, 2020 (in millions):

Property, Plant and Equipment, Net

	2021	2020
Land and buildings	\$ 20,041	\$ 17,952
Machinery, equipment and internal-use software	78,659	75,291
Leasehold improvements	11,023	10,283
Gross property, plant and equipment	109,723	103,526
Accumulated depreciation and amortization	(70,283)	(66,760)
Total property, plant and equipment, net	\$ 39,440	\$ 36,766

Other Non-Current Liabilities

	2021	2020
Long-term taxes payable	\$ 24,689	\$ 28,170
Other non-current liabilities	28,636	26,320
Total other non-current liabilities	\$ 53,325	\$ 54,490

Other Income/(Expense), Net

The following table shows the detail of OI&E for 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Interest and dividend income	\$ 2,843	\$ 3,763	\$ 4,961
Interest expense	(2,645)	(2,873)	(3,576)
Other income/(expense), net	60	(87)	422
Total other income/(expense), net	\$ 258	\$ 803	\$ 1,807

Note 5 – Income Taxes**Provision for Income Taxes and Effective Tax Rate**

The provision for income taxes for 2021, 2020 and 2019, consisted of the following (in millions):

	2021	2020	2019
Federal:			
Current	\$ 8,257	\$ 6,306	\$ 6,384
Deferred	(7,176)	(3,619)	(2,939)
Total	1,081	2,687	3,445
State:			
Current	1,620	455	475
Deferred	(338)	21	(67)
Total	1,282	476	408
Foreign:			
Current	9,424	3,134	3,962
Deferred	2,740	3,383	2,666
Total	12,164	6,517	6,628
Provision for income taxes	\$ 14,527	\$ 9,680	\$ 10,481

The foreign provision for income taxes is based on foreign pretax earnings of \$68.7 billion, \$38.1 billion and \$44.3 billion in 2021, 2020 and 2019, respectively.

A reconciliation of the provision for income taxes, with the amount computed by applying the statutory federal income tax rate (21% in 2021, 2020 and 2019) to income before provision for income taxes for 2021, 2020 and 2019, is as follows (dollars in millions):

	2021	2020	2019
Computed expected tax	\$ 22,933	\$ 14,089	\$ 13,805
State taxes, net of federal effect	1,151	423	423
Impacts of the U.S. Tax Cuts and Jobs Act of 2017	—	(582)	—
Earnings of foreign subsidiaries	(4,715)	(2,534)	(2,625)
Foreign-derived intangible income deduction	(1,372)	(169)	(149)
Research and development credit, net	(1,033)	(728)	(548)
Excess tax benefits from equity awards	(2,137)	(930)	(639)
Other	(300)	111	214
Provision for income taxes	\$ 14,527	\$ 9,680	\$ 10,481
Effective tax rate	13.3 %	14.4 %	15.9 %

Deferred Tax Assets and Liabilities

As of September 25, 2021 and September 26, 2020, the significant components of the Company's deferred tax assets and liabilities were (in millions):

	2021	2020
Deferred tax assets:		
Amortization and depreciation	\$ 5,575	\$ 8,317
Accrued liabilities and other reserves	5,895	4,934
Lease liabilities	2,406	2,038
Deferred revenue	5,399	1,638
Tax credit carryforwards	4,262	797
Other	1,639	1,612
Total deferred tax assets	25,176	19,336
Less: Valuation allowance	(4,903)	(1,041)
Total deferred tax assets, net	20,273	18,295
Deferred tax liabilities:		
Minimum tax on foreign earnings	4,318	7,045
Right-of-use assets	2,167	1,862
Unrealized gains	203	526
Other	512	705
Total deferred tax liabilities	7,200	10,138
Net deferred tax assets	\$ 13,073	\$ 8,157

Deferred tax assets and liabilities reflect the effects of tax credits and the future income tax effects of temporary differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and are measured using enacted tax rates that apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company has elected to record certain deferred tax assets and liabilities in connection with the minimum tax on certain foreign earnings created by the U.S. Tax Cuts and Jobs Act of 2017 (the "Act").

As of September 25, 2021, the Company had \$2.6 billion in foreign tax credit carryforwards in Ireland and \$1.6 billion in California research and development credit carryforwards, both of which can be carried forward indefinitely. A valuation allowance has been recorded for the tax credit carryforwards and a portion of other temporary differences.

Uncertain Tax Positions

As of September 25, 2021, the total amount of gross unrecognized tax benefits was \$15.5 billion, of which \$6.6 billion, if recognized, would impact the Company's effective tax rate. As of September 26, 2020, the total amount of gross unrecognized tax benefits was \$16.5 billion, of which \$8.8 billion, if recognized, would have impacted the Company's effective tax rate.

The aggregate change in the balance of gross unrecognized tax benefits, which excludes interest and penalties, for 2021, 2020 and 2019, is as follows (in millions):

	2021	2020	2019
Beginning balances	\$ 16,475	\$ 15,619	\$ 9,694
Increases related to tax positions taken during a prior year	816	454	5,845
Decreases related to tax positions taken during a prior year	(1,402)	(791)	(686)
Increases related to tax positions taken during the current year	1,607	1,347	1,697
Decreases related to settlements with taxing authorities	(1,838)	(85)	(852)
Decreases related to expiration of the statute of limitations	(181)	(69)	(79)
Ending balances	\$ 15,477	\$ 16,475	\$ 15,619

The Company is subject to taxation and files income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. Tax years after 2015 for the U.S. federal jurisdiction, and after 2014 in certain major foreign jurisdictions, remain subject to examination. Although the timing of resolution and/or closure of examinations is not certain, the Company believes it is reasonably possible that its gross unrecognized tax benefits could decrease in the next 12 months by as much as \$1.2 billion.

Interest and Penalties

The Company includes interest and penalties related to income tax matters within the provision for income taxes. As of September 25, 2021 and September 26, 2020, the total amount of gross interest and penalties accrued was \$1.5 billion and \$1.4 billion, respectively. The Company recognized interest and penalty expense of \$219 million, \$85 million and \$73 million in 2021, 2020 and 2019, respectively.

European Commission State Aid Decision

On August 30, 2016, the European Commission announced its decision that Ireland granted state aid to the Company by providing tax opinions in 1991 and 2007 concerning the tax allocation of profits of the Irish branches of two subsidiaries of the Company (the "State Aid Decision"). The State Aid Decision ordered Ireland to calculate and recover additional taxes from the Company for the period June 2003 through December 2014. Irish legislative changes, effective as of January 2015, eliminated the application of the tax opinions from that date forward. The recovery amount was calculated to be €13.1 billion, plus interest of €1.2 billion. The Company and Ireland appealed the State Aid Decision to the General Court of the Court of Justice of the European Union (the "General Court"). On July 15, 2020, the General Court annulled the State Aid Decision. On September 25, 2020, the European Commission appealed the General Court's decision to the European Court of Justice. The Company believes that any incremental Irish corporate income taxes potentially due related to the State Aid Decision would be creditable against U.S. taxes, subject to any foreign tax credit limitations in the Act.

On an annual basis, the Company may request approval from the Irish Minister for Finance to reduce the recovery amount for certain taxes paid to other countries. As of September 25, 2021, the adjusted recovery amount was €12.7 billion, excluding interest. The adjusted recovery amount plus interest is funded into escrow, where it will remain restricted from general use pending the conclusion of all legal proceedings. Refer to the Cash, Cash Equivalents and Marketable Securities section of Note 3, "Financial Instruments" for more information.

Note 6 – Leases

The Company has lease arrangements for certain equipment and facilities, including retail, corporate, manufacturing and data center space. These leases typically have original terms not exceeding 10 years and generally contain multiyear renewal options, some of which are reasonably certain of exercise. The Company's lease arrangements may contain both lease and nonlease components. The Company has elected to combine and account for lease and nonlease components as a single lease component for leases of retail, corporate, and data center facilities.

Payments under the Company's lease arrangements may be fixed or variable, and variable lease payments are primarily based on purchases of output of the underlying leased assets. Lease costs associated with fixed payments on the Company's operating leases were \$1.7 billion and \$1.5 billion for 2021 and 2020, respectively. Lease costs associated with variable payments on the Company's leases were \$12.9 billion and \$9.3 billion for 2021 and 2020, respectively. Rent expense for operating leases, as previously reported under former lease accounting standards, was \$1.3 billion in 2019.

The Company made \$1.4 billion and \$1.5 billion of fixed cash payments related to operating leases in 2021 and 2020, respectively. Noncash activities involving right-of-use ("ROU") assets obtained in exchange for lease liabilities were \$3.3 billion for 2021 and \$10.5 billion for 2020, including the impact of adopting FASB ASU No. 2016-02, Leases (*Topic 842*) in the first quarter of 2020.

The following table shows ROU assets and lease liabilities, and the associated financial statement line items, as of September 25, 2021 and September 26, 2020 (in millions):

Lease-Related Assets and Liabilities	Financial Statement Line Items	2021	2020
Right-of-use assets:			
Operating leases	Other non-current assets	\$ 10,087	\$ 8,570
Finance leases	Property, plant and equipment, net	861	629
Total right-of-use assets		<u>\$ 10,948</u>	<u>\$ 9,199</u>
Lease liabilities:			
Operating leases	Other current liabilities	\$ 1,449	\$ 1,436
	Other non-current liabilities	9,506	7,745
Finance leases	Other current liabilities	79	24
	Other non-current liabilities	769	637
Total lease liabilities		<u>\$ 11,803</u>	<u>\$ 9,842</u>

Lease liability maturities as of September 25, 2021, are as follows (in millions):

	Operating Leases	Finance Leases	Total
2022	\$ 1,629	\$ 104	\$ 1,733
2023	1,560	123	1,683
2024	1,499	99	1,598
2025	1,251	46	1,297
2026	1,061	26	1,087
Thereafter	5,187	868	6,055
Total undiscounted liabilities	12,187	1,266	13,453
Less: Imputed interest	(1,232)	(418)	(1,650)
Total lease liabilities	\$ 10,955	\$ 848	\$ 11,803

The weighted-average remaining lease term related to the Company's lease liabilities as of September 25, 2021 and September 26, 2020 was 10.8 years and 10.3 years, respectively.

The discount rate related to the Company's lease liabilities as of both September 25, 2021 and September 26, 2020 was 2.0%. The discount rates are generally based on estimates of the Company's incremental borrowing rate, as the discount rates implicit in the Company's leases cannot be readily determined.

As of September 25, 2021, the Company had \$1.1 billion of future payments under additional leases, primarily for corporate facilities and retail space, that had not yet commenced. These leases will commence between 2022 and 2023, with lease terms ranging from 3 years to 20 years.

Note 7 – Debt

Commercial Paper and Repurchase Agreements

The Company issues unsecured short-term promissory notes ("Commercial Paper") pursuant to a commercial paper program. The Company uses net proceeds from the commercial paper program for general corporate purposes, including dividends and share repurchases. As of September 25, 2021 and September 26, 2020, the Company had \$6.0 billion and \$5.0 billion of Commercial Paper outstanding, respectively, with maturities generally less than nine months. The weighted-average interest rate of the Company's Commercial Paper was 0.06% and 0.62% as of September 25, 2021 and September 26, 2020, respectively. The following table provides a summary of cash flows associated with the issuance and maturities of Commercial Paper for 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Maturities 90 days or less:			
Proceeds from/(Repayments of) commercial paper, net	\$ (357)	\$ 100	\$ (3,248)
Maturities greater than 90 days:			
Proceeds from commercial paper	7,946	6,185	13,874
Repayments of commercial paper	(6,567)	(7,248)	(16,603)
Proceeds from/(Repayments of) commercial paper, net	1,379	(1,063)	(2,729)
Total proceeds from/(repayments of) commercial paper, net	\$ 1,022	\$ (963)	\$ (5,977)

In 2020, the Company entered into agreements to sell certain of its marketable securities with a promise to repurchase the securities at a specified time and amount ("Repos"). Due to the Company's continuing involvement with the marketable securities, the Company accounted for its Repos as collateralized borrowings. The Company entered into \$5.2 billion of Repos during 2020, all of which had been settled as of September 26, 2020.

Term Debt

As of September 25, 2021, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of \$118.1 billion (collectively the "Notes"). The Notes are senior unsecured obligations and interest is payable in arrears. The following table provides a summary of the Company's term debt as of September 25, 2021 and September 26, 2020:

		2021		2020	
	Maturities (calendar year)	Amount (in millions)	Effective Interest Rate	Amount (in millions)	Effective Interest Rate
2013 – 2020 debt issuances:					
Floating-rate notes	2022	\$ 1,750	0.48% – 0.63%	\$ 2,250	0.60% – 1.39%
Fixed-rate 0.000% – 4.650% notes	2022 – 2060	95,813	0.03% – 4.78%	103,828	0.03% – 4.78%
Second quarter 2021 debt issuance:					
Fixed-rate 0.700% – 2.800% notes	2026 – 2061	14,000	0.75% – 2.81%	—	— %
Fourth quarter 2021 debt issuance:					
Fixed-rate 1.400% – 2.850% notes	2028 – 2061	6,500	1.43% – 2.86%	—	— %
Total term debt		118,063		106,078	
Unamortized premium/(discount) and issuance costs, net		(380)		(314)	
Hedge accounting fair value adjustments		1,036		1,676	
Less: Current portion of term debt		(9,613)		(8,773)	
Total non-current portion of term debt		\$ 109,106		\$ 98,667	

To manage interest rate risk on certain of its U.S. dollar-denominated fixed- or floating-rate notes, the Company has entered into interest rate swaps to effectively convert the fixed interest rates to floating interest rates or the floating interest rates to fixed interest rates on a portion of these notes. Additionally, to manage foreign currency risk on certain of its foreign currency-denominated notes, the Company has entered into foreign currency swaps to effectively convert these notes to U.S. dollar-denominated notes.

The effective interest rates for the Notes include the interest on the Notes, amortization of the discount or premium and, if applicable, adjustments related to hedging. The Company recognized \$2.6 billion, \$2.8 billion and \$3.2 billion of interest expense on its term debt for 2021, 2020 and 2019, respectively.

The future principal payments for the Company's Notes as of September 25, 2021, are as follows (in millions):

2022	\$ 9,583
2023	11,391
2024	10,202
2025	10,914
2026	11,408
Thereafter	64,565
Total term debt	\$ 118,063

As of September 25, 2021 and September 26, 2020, the fair value of the Company's Notes, based on Level 2 inputs, was \$125.3 billion and \$117.1 billion, respectively.

Note 8 – Shareholders' Equity**Share Repurchase Program**

As of September 25, 2021, the Company was authorized to purchase up to \$315 billion of the Company's common stock under a share repurchase program (the "Program"). During 2021, the Company repurchased 656 million shares of its common stock for \$85.5 billion, including 36 million shares delivered under a \$5.0 billion accelerated share repurchase agreement entered into in May 2021, bringing the total utilization under the Program to \$254.1 billion as of September 25, 2021. The Program does not obligate the Company to acquire any specific number of shares. Under the Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Shares of Common Stock

The following table shows the changes in shares of common stock for 2021, 2020 and 2019 (in thousands):

	2021	2020	2019
Common stock outstanding, beginning balances	16,976,763	17,772,945	19,019,943
Common stock repurchased	(656,340)	(917,270)	(1,380,819)
Common stock issued, net of shares withheld for employee taxes	106,363	121,088	133,821
Common stock outstanding, ending balances	16,426,786	16,976,763	17,772,945

Note 9 – Benefit Plans**2014 Employee Stock Plan**

The 2014 Employee Stock Plan (the "2014 Plan") is a shareholder-approved plan that provides for broad-based equity grants to employees, including executive officers, and permits the granting of restricted stock units ("RSUs"), stock grants, performance-based awards, stock options and stock appreciation rights, as well as cash bonus awards. RSUs granted under the 2014 Plan generally vest over four years, based on continued employment, and are settled upon vesting in shares of the Company's common stock on a one-for-one basis. RSUs granted under the 2014 Plan reduce the number of shares available for grant under the plan by a factor of two times the number of RSUs granted. RSUs canceled and shares withheld to satisfy tax withholding obligations increase the number of shares available for grant under the 2014 Plan utilizing a factor of two times the number of RSUs canceled or shares withheld. All RSUs granted under the 2014 Plan have dividend equivalent rights ("DERs"), which entitle holders of RSUs to the same dividend value per share as holders of common stock. DERs are subject to the same vesting and other terms and conditions as the underlying RSUs. As of September 25, 2021, approximately 760 million shares were reserved for future issuance under the 2014 Plan. Shares subject to outstanding awards under the 2003 Employee Stock Plan that expire, are canceled or otherwise terminate, or are withheld to satisfy tax withholding obligations for RSUs, will also be available for awards under the 2014 Plan.

Apple Inc. Non-Employee Director Stock Plan

The Apple Inc. Non-Employee Director Stock Plan (the "Director Plan") is a shareholder-approved plan that (i) permits the Company to grant awards of RSUs or stock options to the Company's non-employee directors, (ii) provides for automatic initial grants of RSUs upon a non-employee director joining the Board of Directors and automatic annual grants of RSUs at each annual meeting of shareholders, and (iii) permits the Board of Directors to prospectively change the value and relative mixture of stock options and RSUs for the initial and annual award grants and the methodology for determining the number of shares of the Company's common stock subject to these grants, in each case within the limits set forth in the Director Plan and without further shareholder approval. RSUs granted under the Director Plan reduce the number of shares available for grant under the plan by a factor of two times the number of RSUs granted. The Director Plan expires on November 12, 2027. All RSUs granted under the Director Plan are entitled to DERs, which are subject to the same vesting and other terms and conditions as the underlying RSUs. As of September 25, 2021, approximately 4 million shares were reserved for future issuance under the Director Plan.

Rule 10b5-1 Trading Plans

During the three months ended September 25, 2021, Section 16 officers Katherine L. Adams, Timothy D. Cook, Luca Maestri, Deirdre O'Brien and Jeffrey Williams had equity trading plans in place in accordance with Rule 10b5-1(c)(1) under the Exchange Act. An equity trading plan is a written document that preestablishes the amounts, prices and dates (or formula for determining the amounts, prices and dates) of future purchases or sales of the Company's stock, including shares acquired under the Company's employee and director equity plans.

Employee Stock Purchase Plan

The Employee Stock Purchase Plan (the "Purchase Plan") is a shareholder-approved plan under which substantially all employees may voluntarily enroll to purchase the Company's common stock through payroll deductions at a price equal to 85% of the lower of the fair market values of the stock as of the beginning or the end of six-month offering periods. An employee's payroll deductions under the Purchase Plan are limited to 10% of the employee's compensation and employees may not purchase more than \$25,000 of stock during any calendar year. As of September 25, 2021, approximately 96 million shares were reserved for future issuance under the Purchase Plan.

401(k) Plan

The Company's 401(k) Plan is a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Under the 401(k) Plan, participating U.S. employees may defer a portion of their pretax earnings, up to the U.S. Internal Revenue Service annual contribution limit (\$19,500 for calendar year 2021). The Company matches 50% to 100% of each employee's contributions, depending on length of service, up to a maximum of 6% of the employee's eligible earnings.

Restricted Stock Units

A summary of the Company's RSU activity and related information for 2021, 2020 and 2019, is as follows:

	Number of RSUs (in thousands)	Weighted-Average Grant Date Fair Value Per RSU	Aggregate Fair Value (in millions)
Balance as of September 29, 2018	368,618	\$ 33.65	
RSUs granted	147,409	\$ 53.99	
RSUs vested	(168,350)	\$ 33.80	
RSUs canceled	(21,609)	\$ 40.71	
Balance as of September 28, 2019	326,068	\$ 42.30	
RSUs granted	156,800	\$ 59.20	
RSUs vested	(157,743)	\$ 40.29	
RSUs canceled	(14,347)	\$ 48.07	
Balance as of September 26, 2020	310,778	\$ 51.58	
RSUs granted	89,363	\$ 116.33	
RSUs vested	(145,766)	\$ 50.71	
RSUs canceled	(13,948)	\$ 68.95	
Balance as of September 25, 2021	240,427	\$ 75.16	\$ 35,324

The fair value as of the respective vesting dates of RSUs was \$19.0 billion, \$10.8 billion and \$8.6 billion for 2021, 2020 and 2019, respectively. The majority of RSUs that vested in 2021, 2020 and 2019 were net share settled such that the Company withheld shares with a value equivalent to the employees' obligation for the applicable income and other employment taxes, and remitted the cash to the appropriate taxing authorities. The total shares withheld were approximately 53 million, 56 million and 59 million for 2021, 2020 and 2019, respectively, and were based on the value of the RSUs on their respective vesting dates as determined by the Company's closing stock price. Total payments for the employees' tax obligations to taxing authorities were \$6.8 billion, \$3.9 billion and \$3.0 billion in 2021, 2020 and 2019, respectively.

Share-Based Compensation

The following table shows share-based compensation expense and the related income tax benefit included in the Consolidated Statements of Operations for 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Share-based compensation expense	\$ 7,906	\$ 6,829	\$ 6,068
Income tax benefit related to share-based compensation expense	\$ (4,056)	\$ (2,476)	\$ (1,967)

As of September 25, 2021, the total unrecognized compensation cost related to outstanding RSUs and stock options was \$13.6 billion, which the Company expects to recognize over a weighted-average period of 2.5 years.

Note 10 – Commitments and Contingencies**Accrued Warranty and Guarantees**

The following table shows changes in the Company's accrued warranties and related costs for 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Beginning accrued warranty and related costs	\$ 3,354	\$ 3,570	\$ 3,692
Cost of warranty claims	(2,674)	(2,956)	(3,857)
Accruals for product warranty	2,684	2,740	3,735
Ending accrued warranty and related costs	<u>\$ 3,364</u>	<u>\$ 3,354</u>	<u>\$ 3,570</u>

The Company offers an iPhone Upgrade Program, which is available to customers who purchase a qualifying iPhone in the U.S., the U.K. and China mainland. The iPhone Upgrade Program provides customers the right to trade in that iPhone for a specified amount when purchasing a new iPhone, provided certain conditions are met. The Company accounts for the trade-in right as a guarantee liability and recognizes arrangement revenue net of the fair value of such right, with subsequent changes to the guarantee liability recognized within net sales.

Concentrations in the Available Sources of Supply of Materials and Product

Although most components essential to the Company's business are generally available from multiple sources, certain components are currently obtained from single or limited sources. The Company also competes for various components with other participants in the markets for smartphones, personal computers, tablets, wearables and accessories. Therefore, many components used by the Company, including those that are available from multiple sources, are at times subject to industry-wide shortage and significant commodity pricing fluctuations.

The Company uses some custom components that are not commonly used by its competitors, and new products introduced by the Company often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, may be affected if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements.

The Company has entered into agreements for the supply of many components; however, there can be no guarantee that the Company will be able to extend or renew these agreements on similar terms, or at all.

Substantially all of the Company's hardware products are manufactured by outsourcing partners that are located primarily in Asia, with some Mac computers manufactured in the U.S. and Ireland.

Unconditional Purchase Obligations

The Company has entered into certain off-balance sheet commitments that require the future purchase of goods or services ("unconditional purchase obligations"). The Company's unconditional purchase obligations primarily consist of payments for content creation, Internet and telecommunications services and supplier arrangements. Future payments under noncancelable unconditional purchase obligations having a remaining term in excess of one year as of September 25, 2021, are as follows (in millions):

2022	\$ 4,551
2023	2,165
2024	984
2025	405
2026	51
Thereafter	28
Total	<u>\$ 8,184</u>

Contingencies

The Company is subject to various legal proceedings and claims that have arisen in the ordinary course of business and that have not been fully resolved. The outcome of litigation is inherently uncertain. When a loss related to a legal proceeding or claim is probable and reasonably estimable, the Company accrues its best estimate for the ultimate resolution of the matter. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. In the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims, except for the following matters:

VirnetX

VirnetX, Inc. ("VirnetX") filed a lawsuit against the Company alleging that certain of the Company's products infringe on patents owned by VirnetX. On April 11, 2018, a jury returned a verdict against the Company in the U.S. District Court for the Eastern District of Texas (the "Eastern Texas District Court"). The Company appealed the verdict to the U.S. Court of Appeals for the Federal Circuit, which remanded the case back to the Eastern Texas District Court, where a retrial was held in October 2020. The jury returned a verdict against the Company and awarded damages of \$503 million, which the Company has appealed. The Company has challenged the validity of the patents at issue in the retrial at the U.S. Patent and Trademark Office (the "PTO"), and the PTO has declared the patents invalid, subject to further appeal by VirnetX.

iOS Performance Management Cases

On April 5, 2018, several U.S. federal actions alleging violation of consumer protection laws, fraud, computer intrusion and other causes of action related to the Company's performance management feature used in its iPhone operating systems, introduced to certain iPhones in iOS updates 10.2.1 and 11.2, were consolidated through a Multidistrict Litigation process into a single action in the U.S. District Court for the Northern District of California (the "Northern California District Court"). On February 28, 2020, the parties in the Multidistrict Litigation reached a settlement to resolve the U.S. federal and California state class actions. On March 18, 2021, the Northern California District Court granted final approval of the Multidistrict Litigation settlement, which will result in an aggregate payment of \$310 million to settle all claims. The Company continues to believe that its iPhones were not defective, that the performance management feature introduced with iOS updates 10.2.1 and 11.2 was intended to, and did, improve customers' user experience, and that the Company did not make any misleading statements or fail to disclose any material information.

French Competition Authority

On March 16, 2020, the French Competition Authority ("FCA") announced its decision that aspects of the Company's sales and distribution practices in France violate French competition law, and issued a fine of €1.1 billion. The Company strongly disagrees with the FCA's decision, and has appealed.

Optis

Optis Wireless Technology, LLC and related entities ("Optis") filed a lawsuit in the U.S. District Court for the Eastern District of Texas against the Company alleging that certain of the Company's products infringe on patents owned by Optis. On August 11, 2020, a jury returned a verdict against the Company and awarded damages. In post-trial proceedings, the damages portion of the verdict was set aside. A retrial on damages was held in August 2021 and the jury in that proceeding awarded damages of \$300 million against the Company, which the Company plans to appeal.

Note 11 – Segment Information and Geographic Data

The Company reports segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of the Company's reportable segments.

The Company manages its business primarily on a geographic basis. The Company's reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company's other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company's customers and distribution partners and the unique market dynamics of each geographic region. The accounting policies of the various segments are the same as those described in Note 1, "Summary of Significant Accounting Policies."

The Company evaluates the performance of its reportable segments based on net sales and operating income. Net sales for geographic segments are generally based on the location of customers and sales through the Company's retail stores located in those geographic locations. Operating income for each segment includes net sales to third parties, related cost of sales and operating expenses directly attributable to the segment. Advertising expenses are generally included in the geographic segment in which the expenditures are incurred. Operating income for each segment excludes other income and expense and certain expenses managed outside the reportable segments. Costs excluded from segment operating income include various corporate expenses such as research and development, corporate marketing expenses, certain share-based compensation expenses, income taxes, various nonrecurring charges and other separately managed general and administrative costs. The Company does not include intercompany transfers between segments for management reporting purposes.

The following table shows information by reportable segment for 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Americas:			
Net sales	\$ 153,306	\$ 124,556	\$ 116,914
Operating income	\$ 53,382	\$ 37,722	\$ 35,099
Europe:			
Net sales	\$ 89,307	\$ 68,640	\$ 60,288
Operating income	\$ 32,505	\$ 22,170	\$ 19,195
Greater China:			
Net sales	\$ 68,366	\$ 40,308	\$ 43,678
Operating income	\$ 28,504	\$ 15,261	\$ 16,232
Japan:			
Net sales	\$ 28,482	\$ 21,418	\$ 21,506
Operating income	\$ 12,798	\$ 9,279	\$ 9,369
Rest of Asia Pacific:			
Net sales	\$ 26,356	\$ 19,593	\$ 17,788
Operating income	\$ 9,817	\$ 6,808	\$ 6,055

A reconciliation of the Company's segment operating income to the Consolidated Statements of Operations for 2021, 2020 and 2019 is as follows (in millions):

	2021	2020	2019
Segment operating income	\$ 137,006	\$ 91,240	\$ 85,950
Research and development expense	(21,914)	(18,752)	(16,217)
Other corporate expenses, net	(6,143)	(6,200)	(5,803)
Total operating income	\$ 108,949	\$ 66,288	\$ 63,930

The U.S. and China were the only countries that accounted for more than 10% of the Company's net sales in 2021, 2020 and 2019. There was no single customer that accounted for more than 10% of net sales in 2021, 2020 and 2019. Net sales for 2021, 2020 and 2019 and long-lived assets as of September 25, 2021 and September 26, 2020 were as follows (in millions):

	2021	2020	2019
Net sales:			
U.S.	\$ 133,803	\$ 109,197	\$ 102,266
China ⁽¹⁾	68,366	40,308	43,678
Other countries	163,648	125,010	114,230
Total net sales	<u>\$ 365,817</u>	<u>\$ 274,515</u>	<u>\$ 260,174</u>
Long-lived assets:			
U.S.	\$ 28,203	\$ 25,890	
China ⁽¹⁾	7,521	7,256	
Other countries	3,716	3,620	
Total long-lived assets	<u>\$ 39,440</u>	<u>\$ 36,766</u>	

(1) China includes Hong Kong and Taiwan. Long-lived assets located in China consist primarily of product tooling and manufacturing process equipment and assets related to retail stores and related infrastructure.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Apple Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Apple Inc. as of September 25, 2021 and September 26, 2020, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 25, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of Apple Inc. at September 25, 2021 and September 26, 2020, and the results of its operations and its cash flows for each of the three years in the period ended September 25, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (the "PCAOB"), Apple Inc.'s internal control over financial reporting as of September 25, 2021, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated October 28, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of Apple Inc.'s management. Our responsibility is to express an opinion on Apple Inc.'s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Apple Inc. in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Uncertain Tax Positions

Description of the Matter

As discussed in Note 5 to the financial statements, Apple Inc. is subject to taxation and files income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. As of September 25, 2021, the total amount of gross unrecognized tax benefits was \$15.5 billion, of which \$6.6 billion, if recognized, would impact Apple Inc.'s effective tax rate. Apple Inc. uses significant judgment in the calculation of tax liabilities in estimating the impact of uncertainties in the application of technical merits and complex tax laws.

Auditing management's evaluation of whether an uncertain tax position is more likely than not to be sustained and the measurement of the benefit of various tax positions can be complex, involves significant judgment, and is based on interpretations of tax laws and legal rulings.

How We Addressed the
Matter in Our Audit

We tested controls relating to the evaluation of uncertain tax positions, including controls over management's assessment as to whether tax positions are more likely than not to be sustained, management's process to measure the benefit of its tax positions, and the development of the related disclosures.

To evaluate Apple Inc.'s assessment of which tax positions are more likely than not to be sustained, our audit procedures included, among others, reading and evaluating management's assumptions and analysis, and, as applicable, Apple Inc.'s communications with taxing authorities, that detailed the basis and technical merits of the uncertain tax positions. We involved our tax subject matter resources in assessing the technical merits of certain of Apple Inc.'s tax positions based on our knowledge of relevant tax laws and experience with related taxing authorities. For certain tax positions, we also received external legal counsel confirmation letters and discussed the matters with external advisors and Apple Inc. tax personnel. In addition, we evaluated Apple Inc.'s disclosure in relation to these matters included in Note 5 to the financial statements.

/s/ Ernst & Young LLP

We have served as Apple Inc.'s auditor since 2009.

San Jose, California
October 28, 2021

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Apple Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Apple Inc.'s internal control over financial reporting as of September 25, 2021, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, Apple Inc. maintained, in all material respects, effective internal control over financial reporting as of September 25, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (the "PCAOB"), the consolidated balance sheets of Apple Inc. as of September 25, 2021 and September 26, 2020, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 25, 2021, and the related notes and our report dated October 28, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

Apple Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on Apple Inc.'s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Apple Inc. in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California
October 28, 2021

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures**Evaluation of Disclosure Controls and Procedures**

Based on an evaluation under the supervision and with the participation of the Company's management, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act were effective as of September 25, 2021 to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including its principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Inherent Limitations over Internal Controls

The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles ("GAAP"). The Company's internal control over financial reporting includes those policies and procedures that:

- (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;
- (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that the Company's receipts and expenditures are being made only in accordance with authorizations of the Company's management and directors; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Management, including the Company's Chief Executive Officer and Chief Financial Officer, does not expect that the Company's internal controls will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, any evaluation of the effectiveness of controls in future periods are subject to the risk that those internal controls may become inadequate because of changes in business conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's Annual Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Management conducted an assessment of the effectiveness of the Company's internal control over financial reporting based on the criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on the Company's assessment, management has concluded that its internal control over financial reporting was effective as of September 25, 2021 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP. The Company's independent registered public accounting firm, Ernst & Young LLP, has issued an audit report on the Company's internal control over financial reporting, which appears in Part II, Item 8 of this Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the fourth quarter of 2021, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information**Disclosure Pursuant to Section 13(r) of the Exchange Act**

Under Section 13(r) of the Exchange Act, the Company is required to disclose in its periodic reports if it or any of its affiliates knowingly conducted a transaction or dealing with entities or individuals designated pursuant to certain Executive Orders.

On March 2, 2021, the U.S. Secretary of State designated the Russian Federal Security Service (the "FSB") as a blocked party under Executive Order 13382. On the same day, the U.S. Department of the Treasury's Office of Foreign Assets Control updated General License No. 1B to authorize transactions and activities with the FSB that are necessary and ordinarily incident to requesting, receiving, utilizing, paying for, or dealing in certain licenses, permits, certifications or notifications issued or registered by the FSB for the importation, distribution or use of certain information technology products in the Russian Federation.

As previously disclosed in the Company's Quarterly Report on Form 10-Q for the three-month period ended June 26, 2021, during such period, the Company filed legally required administrative notifications with the FSB in connection with the importation of the Company's products into the Russian Federation, as permitted by General License No. 1B. The Company did not make any payments, nor did it receive gross revenues or net profits, in connection with such engagement. The Company may in the future engage with the FSB for activities necessary to conduct business in the Russian Federation, in accordance with applicable U.S. laws and regulations.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III**Item 10. Directors, Executive Officers and Corporate Governance**

The information required by this Item is included in the Company's 2022 Proxy Statement to be filed with the SEC within 120 days after September 25, 2021 in connection with the solicitation of proxies for the Company's 2022 annual meeting of shareholders, and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item is included in the Company's 2022 Proxy Statement to be filed with the SEC within 120 days after September 25, 2021, and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is included in the Company's 2022 Proxy Statement to be filed with the SEC within 120 days after September 25, 2021, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item is included in the Company's 2022 Proxy Statement to be filed with the SEC within 120 days after September 25, 2021, and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item is included in the Company's 2022 Proxy Statement to be filed with the SEC within 120 days after September 25, 2021, and is incorporated herein by reference.

PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) Documents filed as part of this report

(1) All financial statements

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Consolidated Statements of Operations for the years ended September 25, 2021, September 26, 2020 and September 28, 2019	29
Consolidated Statements of Comprehensive Income for the years ended September 25, 2021, September 26, 2020 and September 28, 2019	30
Consolidated Balance Sheets as of September 25, 2021 and September 26, 2020	31
Consolidated Statements of Shareholders' Equity for the years ended September 25, 2021, September 26, 2020 and September 28, 2019	32
Consolidated Statements of Cash Flows for the years ended September 25, 2021, September 26, 2020 and September 28, 2019	33
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(2) Financial Statement Schedules

All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes included in this Form 10-K.

(3) Exhibits required by Item 601 of Regulation S-K ⁽¹⁾

Exhibit Number	Exhibit Description	Incorporated by Reference		
		Form	Exhibit	Filing Date/ Period End Date
3.1	Restated Articles of Incorporation of the Registrant filed on August 3, 2020.	8-K	3.1	8/7/20
3.2	Amended and Restated Bylaws of the Registrant effective as of December 13, 2016.	8-K	3.2	12/15/16
4.1**	Description of Securities of the Registrant.			
4.2	Indenture, dated as of April 29, 2013, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee.	S-3	4.1	4/29/13
4.3	Officer's Certificate of the Registrant, dated as of May 3, 2013, including forms of global notes representing the Floating Rate Notes due 2016, Floating Rate Notes due 2018, 0.45% Notes due 2016, 1.00% Notes due 2018, 2.40% Notes due 2023 and 3.85% Notes due 2043.	8-K	4.1	5/3/13
4.4	Officer's Certificate of the Registrant, dated as of May 6, 2014, including forms of global notes representing the Floating Rate Notes due 2017, Floating Rate Notes due 2019, 1.05% Notes due 2017, 2.10% Notes due 2019, 2.85% Notes due 2021, 3.45% Notes due 2024 and 4.45% Notes due 2044.	8-K	4.1	5/6/14
4.5	Officer's Certificate of the Registrant, dated as of November 10, 2014, including forms of global notes representing the 1.000% Notes due 2022 and 1.625% Notes due 2026.	8-K	4.1	11/10/14
4.6	Officer's Certificate of the Registrant, dated as of February 9, 2015, including forms of global notes representing the Floating Rate Notes due 2020, 1.55% Notes due 2020, 2.15% Notes due 2022, 2.50% Notes due 2025 and 3.45% Notes due 2045.	8-K	4.1	2/9/15
4.7	Officer's Certificate of the Registrant, dated as of May 13, 2015, including forms of global notes representing the Floating Rate Notes due 2017, Floating Rate Notes due 2020, 0.900% Notes due 2017, 2.000% Notes due 2020, 2.700% Notes due 2022, 3.200% Notes due 2025, and 4.375% Notes due 2045.	8-K	4.1	5/13/15
4.8	Officer's Certificate of the Registrant, dated as of July 31, 2015, including forms of global notes representing the 3.05% Notes due 2029 and 3.60% Notes due 2042.	8-K	4.1	7/31/15

Exhibit Number	Exhibit Description	Incorporated by Reference		
		Form	Exhibit	Filing Date/ Period End Date
4.9	Officer's Certificate of the Registrant, dated as of September 17, 2015, including forms of global notes representing the 1.375% Notes due 2024 and 2.000% Notes due 2027.	8-K	4.1	9/17/15
4.10	Officer's Certificate of the Registrant, dated as of February 23, 2016, including forms of global notes representing the Floating Rate Notes due 2019, Floating Rate Notes due 2021, 1.300% Notes due 2018, 1.700% Notes due 2019, 2.250% Notes due 2021, 2.850% Notes due 2023, 3.250% Notes due 2026, 4.500% Notes due 2036 and 4.650% Notes due 2046.	8-K	4.1	2/23/16
4.11	Supplement No. 1 to the Officer's Certificate of the Registrant, dated as of March 24, 2016.	8-K	4.1	3/24/16
4.12	Officer's Certificate of the Registrant, dated as of August 4, 2016, including forms of global notes representing the Floating Rate Notes due 2019, 1.100% Notes due 2019, 1.550% Notes due 2021, 2.450% Notes due 2026 and 3.850% Notes due 2046.	8-K	4.1	8/4/16
4.13	Officer's Certificate of the Registrant, dated as of February 9, 2017, including forms of global notes representing the Floating Rate Notes due 2019, Floating Rate Notes due 2020, Floating Rate Notes due 2022, 1.550% Notes due 2019, 1.900% Notes due 2020, 2.500% Notes due 2022, 3.000% Notes due 2024, 3.350% Notes due 2027 and 4.250% Notes due 2047.	8-K	4.1	2/9/17
4.14	Officer's Certificate of the Registrant, dated as of May 11, 2017, including forms of global notes representing the Floating Rate Notes due 2020, Floating Rate Notes due 2022, 1.800% Notes due 2020, 2.300% Notes due 2022, 2.850% Notes due 2024 and 3.200% Notes due 2027.	8-K	4.1	5/11/17
4.15	Officer's Certificate of the Registrant, dated as of May 24, 2017, including forms of global notes representing the 0.875% Notes due 2025 and 1.375% Notes due 2029.	8-K	4.1	5/24/17
4.16	Officer's Certificate of the Registrant, dated as of June 20, 2017, including form of global note representing the 3.000% Notes due 2027.	8-K	4.1	6/20/17
4.17	Officer's Certificate of the Registrant, dated as of August 18, 2017, including form of global note representing the 2.513% Notes due 2024.	8-K	4.1	8/18/17
4.18	Officer's Certificate of the Registrant, dated as of September 12, 2017, including forms of global notes representing the 1.500% Notes due 2019, 2.100% Notes due 2022, 2.900% Notes due 2027 and 3.750% Notes due 2047.	8-K	4.1	9/12/17
4.19	Officer's Certificate of the Registrant, dated as of November 13, 2017, including forms of global notes representing the 1.800% Notes due 2019, 2.000% Notes due 2020, 2.400% Notes due 2023, 2.750% Notes due 2025, 3.000% Notes due 2027 and 3.750% Notes due 2047.	8-K	4.1	11/13/17
4.20	Indenture, dated as of November 5, 2018, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee.	S-3	4.1	11/5/18
4.21	Officer's Certificate of the Registrant, dated as of September 11, 2019, including forms of global notes representing the 1.700% Notes due 2022, 1.800% Notes due 2024, 2.050% Notes due 2026, 2.200% Notes due 2029 and 2.950% Notes due 2049.	8-K	4.1	9/11/19
4.22	Officer's Certificate of the Registrant, dated as of November 15, 2019, including forms of global notes representing the 0.000% Notes due 2025 and 0.500% Notes due 2031.	8-K	4.1	11/15/19
4.23	Officer's Certificate of the Registrant, dated as of May 11, 2020, including forms of global notes representing the 0.750% Notes due 2023, 1.125% Notes due 2025, 1.650% Notes due 2030 and 2.650% Notes due 2050.	8-K	4.1	5/11/20
4.24	Officer's Certificate of the Registrant, dated as of August 20, 2020, including forms of global notes representing the 0.550% Notes due 2025, 1.25% Notes due 2030, 2.400% Notes due 2050 and 2.550% Notes due 2060.	8-K	4.1	8/20/20
4.25	Officer's Certificate of the Registrant, dated as of February 8, 2021, including forms of global notes representing the 0.700% Notes due 2026, 1.200% Notes due 2028, 1.650% Notes due 2031, 2.375% Notes due 2041, 2.650% Notes due 2051 and 2.800% Notes due 2061.	8-K	4.1	2/8/21
4.26	Officer's Certificate of the Registrant, dated as of August 5, 2021, including forms of global notes representing the 1.400% Notes due 2028, 1.700% Notes due 2031, 2.700% Notes due 2051 and 2.850% Notes due 2061.	8-K	4.1	8/5/21
4.27*	Apple Inc. Deferred Compensation Plan.	S-8	4.1	8/23/18

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Exhibit Number	Exhibit Description	Incorporated by Reference		
		Form	Exhibit	Filing Date/ Period End Date
10.1*	Employee Stock Purchase Plan, as amended and restated as of March 10, 2015.	8-K	10.1	3/13/15
10.2*	Form of Indemnification Agreement between the Registrant and each director and executive officer of the Registrant.	10-Q	10.2	6/27/09
10.3*	Apple Inc. Non-Employee Director Stock Plan, as amended and restated as of February 13, 2018.	8-K	10.1	2/14/18
10.4*	2014 Employee Stock Plan, as amended and restated as of October 1, 2017.	10-K	10.8	9/30/17
10.5*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of October 14, 2016.	10-K	10.18	9/24/16
10.6*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of September 26, 2017.	10-K	10.20	9/30/17
10.7*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of September 26, 2017.	10-K	10.21	9/30/17
10.8*	Form of Restricted Stock Unit Award Agreement under Non-Employee Director Stock Plan effective as of February 13, 2018.	10-Q	10.2	3/31/18
10.9*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of August 21, 2018.	10-K	10.17	9/29/18
10.10*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of August 21, 2018.	10-K	10.18	9/29/18
10.11*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of September 29, 2019.	10-K	10.15	9/28/19
10.12*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of September 29, 2019.	10-K	10.16	9/28/19
10.13*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of August 18, 2020.	10-K	10.16	9/26/20
10.14*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of August 18, 2020.	10-K	10.17	9/26/20
10.15*	Form of CEO Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of September 27, 2020.	10-Q	10.1	1/28/21
10.16*	Form of CEO Performance Award Agreement under 2014 Employee Stock Plan effective as of September 27, 2020.	10-Q	10.2	1/28/21
21.1**	Subsidiaries of the Registrant.			
23.1**	Consent of Independent Registered Public Accounting Firm.			
24.1**	Power of Attorney (included on the Signatures page of this Annual Report on Form 10-K).			
31.1**	Rule 13a-14(a) / 15d-14(a) Certification of Chief Executive Officer.			
31.2**	Rule 13a-14(a) / 15d-14(a) Certification of Chief Financial Officer.			
32.1***	Section 1350 Certifications of Chief Executive Officer and Chief Financial Officer.			
101**	Inline XBRL Document Set for the consolidated financial statements and accompanying notes in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K.			
104**	Inline XBRL for the cover page of this Annual Report on Form 10-K, included in the Exhibit 101 Inline XBRL Document Set.			

* Indicates management contract or compensatory plan or arrangement.

** Filed herewith.

*** Furnished herewith.

(1) Certain instruments defining the rights of holders of long-term debt securities of the Registrant are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. The Registrant hereby undertakes to furnish to the SEC, upon request, copies of any such instruments.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: October 28, 2021

Apple Inc.

By: /s/ Luca Maestri
 Luca Maestri
 Senior Vice President,
 Chief Financial Officer

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Timothy D. Cook and Luca Maestri, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

Name	Title	Date
<u>/s/ Timothy D. Cook</u> TIMOTHY D. COOK	Chief Executive Officer and Director (Principal Executive Officer)	October 28, 2021
<u>/s/ Luca Maestri</u> LUCA MAESTRI	Senior Vice President, Chief Financial Officer (Principal Financial Officer)	October 28, 2021
<u>/s/ Chris Kondo</u> CHRIS KONDO	Senior Director of Corporate Accounting (Principal Accounting Officer)	October 28, 2021
<u>/s/ James A. Bell</u> JAMES A. BELL	Director	October 28, 2021
<u>/s/ Al Gore</u> AL GORE	Director	October 28, 2021
<u>/s/ Andrea Jung</u> ANDREA JUNG	Director	October 28, 2021
<u>/s/ Arthur D. Levinson</u> ARTHUR D. LEVINSON	Director and Chair of the Board	October 28, 2021
<u>/s/ Monica Lozano</u> MONICA LOZANO	Director	October 28, 2021
<u>/s/ Ronald D. Sugar</u> RONALD D. SUGAR	Director	October 28, 2021
<u>/s/ Susan L. Wagner</u> SUSAN L. WAGNER	Director	October 28, 2021

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